The Builder.

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*Lake Dwellings.**

READERS of that admirable piece of humour, "Knickerbocker's History of New York," will remember that two opinions were in debate as to the site to be chosen for a metropolis by the fathers and founders of the then infant State. The one party suggested that piles should be driven in the sea for the foundations of the houses. The other party advocated the digging canals inland in order to form a watery highway for the city. In genuine humour there is almost always to be detected an instructive lesson. The solemn fun of Washington Irving might have served to awaken attention to the question, how did that extraordinary method of building which prevails in some of the great Low Country cities, and which lends so unique a charm to Venice, originate? It is less than a quarter of a century since the commencement of those discoveries which for the first time have enabled the archæologist to give a definite reply to so natural and so important a question.

In the year 1829 an excavation was made at a place called Ober Meilen, on the shore of the Lake of Zurich, for the sake of deepening the harbour; and old piles and other relics of human workmanship were discovered in the process. The facts did not awaken the attention of any antiquary, and no information is now accessible as to the details. The earth excavated, with all its contents, was filled into boats, taken away from the shore, and discharged in the deepest part of the lake. Thus, Dr. Keller tells us, the matter was allowed to rest for some years.

In the winter of 1853-4 extraordinary drought and long-continued cold produced an unexampled effect in the Alpine districts. The rivers shrank to the smallest proportions, and the lakes subsided to a level unknown in the memory of man. The water-mark of the year 1674 on the Stone of Stäfa was regarded as the lowest made in historic times. In 1853-4 the water was 1 ft. below this mark. Islands before unknown appeared in the lake, and a large area of the shelving shores was exposed as dry land. On the banks of the Rhine, the Aar, and the Limmat, the remains of Roman buildings became visible; and at the same time the attention of antiquaries was called to relics which must have been buried beneath the Lake of Zurich when Rome herself was young.

The inhabitants of the banks of the lake between Ober Meilen and Dollikon took advantage of the low state of the water to recover a certain portion of the shore. They enclosed a space with walls, and commenced filling up the area with mud, excavated from the neighbouring part of the bank. As their work proceeded, they came on the heads of numerous piles, and found a number of stags' horns, as well as implements of a construction previously unknown in the locality. The attention of the Antiquarian Society of Zurich was at once called to the spot, and careful records were made of the progress of the discoveries.

Three superposed strata, or beds of deposit, were exposed by the excavation. Of these the upper (which appears from the drawing to lie about 4 ft. below the ordinary surface of the lake) is from 1 ft. to 2 ft. in thickness, and consisted of yellowish mud, containing numerous rounded pebbles. The bed is of the same nature as the greater part of the shore of the lake, and contained no traces of piles or of animal remains. The time of its deposit must thus have occupied the period which elapsed since the final abandonment of the abodes which we are about to describe. And future observations may perhaps convert the inches of depth into decades or centuries of time.

The second bed was from 2 ft. to 2 ft. 6 in. deep. It consisted also of sandy loam; but from the presence of much organic matter, had become of a black colour. In this bed the heads of piles, and other relics, testifying to human handiwork, are found. The German name Cultur-schicht has been happily rendered by Mr. Lee by the term "Relic-bed." Below this bed an undetermined depth of mud or loam forms the bottom of the lake. It contains the lower part of the piles, but no other relics that have as yet been discovered.

The piles were made of oak, beech, birch, and fir, and are from 4 in. to 6 in. in diameter. Some few of them are whole trunks, but these are the exceptions; the majority consisting of stems of trees split into three or four parts. All the piles discovered in the first excavation had been charred, and the marks of the tool which they presented were such as to lead to the conclusion that they had been hewn by stone axes. The rows of piles, which are approximately regular, commence several fathoms from the shore, and extend until the lake suddenly deepens. The original lengths of the piles must have varied. Some which were dug out were not more than 7 ft. or 8 ft. in the soil. The ends of others were not reached at 9 ft. or 10 ft. below the lake bed. The wood was so soft and rotten that it was easily cut with the spade. The rows of piles ran parallel with the shore, and in close lines at right angles. The average distances apart are from 12 in. to 18 in. A few beams were found lying horizontally, which apparently had formed part of a platform or scaffolding supported by the piles.

Passing over, for the present, the full and well-illustrated account of the implements discovered in this relic bed, we will endeavour to trace the varieties in structural arrangement that prevailed in different cases, more than a hundred of which are more or less fully described in the volume under notice. The importance of the inquiry is heightened by the accumulating evidence of the wide area over which the habit of erecting lake dwellings formerly extended. There is some not very intelligible error in the sentence (p. 475). "Similar remains are found in nearly every suitable lake from that of Bourget on the east to Asia Minor on the west." But in the map which is referred to as explanatory of the paragraph in which this sentence occurs (and which is unprovided with a scale, or any indications of latitude or longitude), the sites of lake dwellings are indicated in various localities from the lake of Bourget, near Chambery, on the west, to Ischl on the north, and Laibach on the north-west, of Trieste. To the north are marked sites at Buchau, not far from the banks of the Danube, and Starnberg, a little south of Munich. To the south two sites are marked skirting the high-road from Piacenza to Bologna; one a little north of Parma; one near Modena. It is curious to remark that no indication of the lacustrine nature of Venice is given on this map. The comparatively modern origin of that place of refuge from the ravages of the barbarian invader of Italy is no doubt the reason. But it is remarkable that this most famous modern instance of water-cradled architecture should be so near the ancient sites of pile-supported villages. One of them is marked at Vicenza; and two in the Lago di Garda. A note at the close of the volume brings the industry of the pile-driving builders nearer home, by referring to an account given by Major-General A. Lane Fox, F.R.S., of the discovery of the remains of pile-villages on the site of the old Moor Fields, formerly a marsh outside the northern wall of the city of London. The crannogs or crannoges of both Ireland and Scotland afford instances of a transition from the pile-supported dwelling to the insular town or fortress. In Scotland, as well as in Ireland, raths are found in the vicinity of lakes containing crannogs. The pursuit of the Morini to their marshes by Cæsar, and of the Caledonii by Severus, are indications of the possession by their tribes of lake or marsh places of refuge, which there is little reason to conclude to be other than crannogs.

The lake dwellings, according to Mr. Lee, may be divided into two classes,—viz., what may be called pile-dwellings, which are those of the usual form, consisting of upright piles driven into the bed of the lake and supporting a horizontal platform, on which the huts were erected; and what may be called "fascine structures." In these latter forms of building, piles have been driven, not for the purpose of direct support, but to serve as guides. In fact, they very strongly resemble the gauge piles, or first commencement of a piece of coffer-dam, or other pile-work of the present time. Layers of faggots and brushwood are laid parallel and crosswise, one over another, between these piles; the lowest layer resting on the bottom of the lake and a clay and gravel floor having apparently

* "The Lake Dwellings of Switzerland and other Parts of Europe." By Dr. Ferdinand Keller, President of the Antiquarian Association of Zurich. Second edition, greatly enlarged. Translated and arranged by J. E. Lee, F.S.A., F.G.S. Illustrated. London: Longmans. 1878.

been formed over the brushwood. These fascine foundations have been adopted in lakes of small depth, where the bottom was of too boggy and yielding a nature to afford a hold for piles bearing the weight of the structure. Such dwellings were more simple, and more easily erected, than those borne upon piles. The commencement of the work must have been the chief difficulty. Layers of faggots, brushwood, and gravel, occur in the case of Niederwyl, near Frauenfield, to a depth of 12 ft. to 14 ft., with as much regularity as if the structure had been reared on dry ground. Mr. Lee supposes that the guide piles having first been driven, the faggots were arranged between them by means of a raft, then covered with brushwood, and then loaded with a sufficient quantitity of gravel to sink them, and that successive masses were thus added till the required height was attained. In support of this view, it is remarked that the part above the water would naturally have been the most carefully executed. The upper beds of fascines, in fact, lock into each other at the ends, and form one continuous mass, and no large chinks filled with clay, gravel, branches, or brushwood, such as are frequently found in the lower layers, occur in the upper beds.

The mode of joining the timber-work by mortise and tenon, the pottery and other implements found, and the indications of the state of agriculture, agree so closely in the two classes of dwellings as to preclude the idea that they were otherwise than contemporaneous. "Niederwyl differs from the allied structure of Wanwyl by the arrangement of the layers of wood above the water being much more symmetrical, and also by the general use of split stems, and of actual boards, 2 ft. broad and 2 in. or 3 in. thick, the making of which must have been attended by much labour." The floor of the huts in the former village consisted of layers of thin unpeeled stems, 2 ft. long, laid parallel to one another, the spaces between being carefully filled up with clay and rushes. The interior was enclosed with boards standing on edge, between upright posts. The space between the posts in all these lake dwellings, is said to have been filled in with wattle-work, coated with clay. The roof was formed of layers of straw and rushes. The dwellings were rectangular, standing in regular rows, some 2 ft. to 3 ft. apart, and averaging 20 ft. by 12 ft. In the corners of some of these were found slabs of sandstone, which had been used as hearthstones, and which were found still covered with charcoal and ashes. No other trace of burning was found in this settlement; so that it is concluded that it was not destroyed by fire, but voluntarily abandoned. Among the objects found was an oaken mallet, 14 in. long, which had evidently been used for driving the piles, and which shows signs of having been fashioned by a stone hatchet.

It is the conclusion of Mr. Lee, from the study of the large number of detailed facts which his volume presents to the reader, that these buildings were all formed originally at some little distance from the shores of the lakes which afforded them sites; the flooring platform, whether borne on piles or resting on fascines, being raised a few feet above the level of the water. They thus resembled the fishermen's huts which are even now to be seen on several of the Swiss lakes. At p. 499 is inserted a woodcut, taken from Cameron's "Travels across Africa," in which a platform, covered with a gabled thatched roof, without any vertical walls, and supported on piles, one of which is furnished with projections intended to serve as a ladder, is given as the ordinary form of a hut on Lake Mohrya, about 7° 20′ S. latitude and 25° 40′ W. longitude.

On the actual structure of the lake dwellings so much light has been thrown by the researches of which Mr. Lee has presented us with a lucidly-arranged summary, that the questions of the height of the apartments, and of the size of the doors and windows, are almost the only ones that are left altogether open. As to these, moreover, it is probable that changes of fashion may have occurred in the long period of time during which this mode of habitation was in use. But it is not on the single element of structural arrangement that we seek, and that not in vain, for information. The ethnographical illustrations are of more magnitude and variety than the architectural data. The race, the period, the habits, the arts, the implements, the agriculture, the weapons, the clothing of the prehistoric dwellers over the lake bottom, are all subjects important to be studied by those who inquire into the dawn of history; and on each and all of these points unexpected information is forthcoming. On some points the discoveries now announced are strikingly novel. Such are those as to the burial of the dead of the lake villages, in rough stone tombs very closely alike to the well-known form of the cromlech, although intended for more numerous burials in the same locality. The remarkable feature of the deposit of the body in a kneeling or crouching attitude is here present, and, as in our own cromlechs, no attention appears to have been paid to the orientation of the sepulchres.

The range in ethnographic time, however far we may yet be from being able to convert this into its astronomical equivalent, is wide and ample. It reaches from nearly, if not quite, the commencement of the palæolithic period, down to the time when iron had become an article of common use. Mr. Lee gives the wise caution that although the division, according to the grade of civilisation, into the stone, the bronze, and the iron periods is, in general, clear and convenient, yet, in determining isolated cases, a dependence on that sequence may tend to erroneous conclusions. He reiterates remarks in accordance with many which have appeared in our own columns, to the effect that the marks of succession have only a relative value, and that though the civilisation of man ran through these successive stages, "it is certain that the bronze period of Northern Europe by no means agrees in time with the middle and southern parts of this continent." Again, the relics found in burying-places and other repositories are usually mixed to such a degree as to serve only to indicate the latest date. The stone celt, the characteristic implement of the stone period, occurs in all stages of the bronze age, and is not unfrequently found associated with iron weapons and instruments.

A remarkable instance of this confusion of the implements of widely-different dates occurs in the pile dwellings of Lübtow, at the northern end of the Lake of Plöne, in Pomerania. Late in the last summer three sides of a strong quadrangular wooden building were there found at a depth of 3 ft. under the former lake-bottom, resting on solid hewn double piles, and indicating a period of construction when the water of the lake was at least 4 ft. lower than in 1859. Chisels and hammers of the stone period were found among these piles, and also one bronze celt. But the main characteristic of the place was the abundance of iron weapons. "Swords, arrow-heads, stirrup-irons, spurs, lance-heads, and knives abounded among the piles; while a helmet, greaves, knives, arrow and spear heads, and spurs were found in the wooden dwelling. In both places a large number of the hollow tiles were found which are known by the name of 'monks'; they belong to the thirteenth, if not to the fourteenth, century. The spurs with rowels, and the greaves, indicate the same date, if not later." A prick-spur, of the ninth century, found beneath the water of the Lake of Paladru, is figured on page 640. On the other hand, "the lake-dwelling of Schussenried, so far as it is known at present, belongs to the oldest period of the neolithic age, which is bounded, as it were, on one side by the period of polished stone implements, and on the other by the absence of the reindeer, the cave bear, and the mammoth." A very interesting paper is contributed by Professor Rütimeyer, of Basle, on the animal remains of the lake-dwellings. The latest discovery, in Aurignac, gives "evidence of a European population who used as food, not only the urus and the bison, but also the mammoth and the rhinoceros; and who left the remains of their food to be gnawed, not only by the wolf and the fox, but also by the tiger and the hyæna." "It is manifest that the people who inhabited the grotto of Aurignac were older than the extension of the glaciers, and consequently witnesses of this mighty phenomenon. . . . The last gap between geological and historical time is filled up by the discovery at Aurignac."

The mention of these savage denizens of the country surrounding the lake dwellings, when compared with the proofs afforded that "the lake dwellings were inhabited during the whole year, and cattle were stalled upon them" (p. 527), appears to us somewhat to militate against the opinion of Professor von Hochstetter, which is cited with approval by the author, to the effect that "The people must have had their chief settlements on land, and the lake dwellings must have been used for some special purpose. It does not appear to me that safety from wild beasts had anything to do with their erection." Mr. Lee remarks that when we speak of wild beasts in the Alpine regions, we can only refer to bears, lynxes, and wolves. To these by no means despicable assailants we see that tigers and hyænas have to be added. It is conceivable that these animals, however numerous, might be unlikely to attack human dwellings, if man formed the sole prey which tempted their rapacity. But as soon as the presence of stall-fed cattle is added to the contents of the settlement, the case is altered. Especially during the dark nights of winter a furious onslaught could hardly fail to be attracted by the tempting smell of a farm enclosure of cows and other cattle. The distance of a few fathoms of water, which is all that seems to have interposed between the lake villages and the shores, would have been a certain defence against wild beasts, cutting off the scent as well as the means of access. Against human enemies the protection would have been doubtful. Canoes or rafts would have furnished a ready mode for assailing a lake village on every side, and at any moment; and the special facility offered by a framed, timbered, and thatched series of dwellings for destruction by fire is alone a consideration in favour of the view that it was not from the hand of man that shelter was sought by the pile-builders.

The second volume of "The Lake Dwellings" consists of 206 lithographed plates, which, without being commendable for any great elegance of execution, give a very fair idea of the forms and sizes of most of the objects recovered from the sites of the lake-houses. They comprise a map, plans, and sections, and one or two views. The quaint forms of some of the early bronze knives and swords bear much the same sort of relation to the shapes familiar to the cutlers of the present day that the palæotherium does to the horse. In fact, the use of buck-horn for the handles of our pocket-knives may be regarded as a survival of the fashion that sank the stone celt in a haft of horn, which, in its turn, was inserted in the club-shaped handle of wood. The greatest permanence of type is found among the implements of the fishermen. Bronze fish-hooks from Ueberlinger See have the very form, even to the barb and the recurved eye at top, of some that we now purchase, made of the best steel, at a London fishing-tackle shop. An implement formed from the top of a young fir-tree, with the branches springing from the upper end like radii, which is not at all uncommon in the deposits at Robenhausen, on the Lake of Pfaffikon, is exactly similar to the one now used by the fishermen of the river Arve, for the purpose of dragging for and recovering the night-lines which they are in the habit of setting. This primeval drag is known by the name of *arpion*. It is weighted by leaden rings. At Robenhausen perforated stones are found, which probably served for the same purpose as the later expedient of metal. The very numerous implements figured in the plates call for a practised skill, such as that which has arranged the anthropological collection of weapons at Bethnal-green Museum, to display them in their true order of affinity. Among the most interesting may be mentioned a yew bow, 5 ft. long, and notched at both ends, for fastening the string, found at Robenhausen; and a shorter specimen, 3 ft. 6 in. long, which may have been a boy's weapon for the chase. Again, the clay and stone moulds for casting bronze knives and other implements, and the earthenware cups or ladles which have been used as crucibles for melting the bronze, are evidences of the progress in metallurgic art attained by people who made their own bronze implements, though they appear to have imported from the east the knives, chisels, and other instruments of jade, which were the most valuable that they possessed before the discovery of the art of the coppersmith.

Another most interesting paper is the abstract of the treatise on the plants of the Lake dwellings, by Dr. Oswald Heer, of Zurich. The charcoal and ashes that give a black colour to the relic-beds of the lakes, have preserved, in the forms of seeds, nuts, and stones, botanical evidence of a nature that would have delighted Linnæus. All the cultivated plants have come from countries connected with the Mediterranean. The small-grained, six-rowed barley, and the small Lake-dwelling wheat (*Hordeum hexastichum sanctum*, and *Triticum vulgare antiquorum*) appear on the monuments of the earliest Pharaohs, and abound in mummy-cases in Egypt, as well as in the relic-beds of the Swiss lakes. "The Lake colonists had, therefore, the same

cereals as the Egyptians. They were also clothed in the same manner; for in Egypt flax took the first place among the plants used for spinning and weaving." The presence of celts, formed of what is called noble nephrite, which is found only in the East, is an indication of the same nature as the occurrence of the Egyptian wheat, the Cretan catch-fly, the oil-yielding poppy, and the glass beads, found at Wauwyl, which were either of Egyptian or Phœnician origin. On the other hand, no trace has been found either of rye, which the people of Eastern Europe cultivated in the bronze age, or of hemp. Portions of the twigs, and remains of the leaves, of mistletoe, the sacred plant of the Gauls, were found at Robenhausen. We are here not only on the track of ethnographical discovery of the utmost interest, but find light cast on the long-vexed question of the origin of our present cereals. "I consider," says Dr. Heer, "the small lake-dwelling wheat as the primitive form from which have sprung, by cultivation, the different forms with the axes not fragile, and with the grains easily detached, as they are all very near to each other in character, and no important and decisively distinctive marks are to be found between them." In the same way the common, the two-rowed, and the rice-barley are supposed to have been derived, by cultivation, from the small six-rowed barley of the lake dwellings. "The *Flora* of the lake dwellings, consequently, announces to us that all the plants that come in contact with man become changed up to a certain point; and thus man participates in the great transformations of Nature, while the wild plants which surround us at the present day still grow in the same forms as they did three or four thousand years ago, and do not exhibit the slightest change.

Neither Dr. Heer nor Mr. Lee pursues this most luminous discovery to the next step, which is one of no slight philosophical importance. The change in the cereals has been effected under the hand of man, as measured by the known chronology of Egypt, within, at the utmost, 6,000 years. During an equal or a longer period the corn bluebottle (*Centaurea cyanus*) and the Cretan catch-fly (*Silene Cretica*), which have lived not as the *protégés*, but as the unbidden guests, of the farmer, have been unchanged. This may be regarded as a sort of protest from the lake dwellings against the doctrine of modification of form by "Natural Selection."

Mr. Lee's work, for which he modestly only claims an exemption from great errors, is a valuable contribution to the history of architecture, of industrial art, and of the human family. It will be an indispensable volume in the library of the archæologist. Not a page can be found that is not rich in information. The arrangement of the plates, and the references given, in the list of plates, to the text, is a feature which much facilitates the study of the work.

"THE HOUSE" ON THE LOCAL GOVERNMENT OF LONDON.

The debate which took place in the House of Commons last week upon Sir U. Kay-Shuttleworth's resolutions,* though it ended in the record of a considerable majority against the immediate acceptance of his motion, may, we hope, be taken as a stage in the progress of conviction in the minds of our legislators, that London government stands in absolute need of reform, or rather of reconstruction. As far as our own columns are concerned, the story is an old one. We have repeatedly urged, what is obvious to every competent observer who thinks for himself, that London is, absolutely speaking, one of the worst governed towns in the kingdom; and that, relatively to its immense extent and its importance as a capital city, the state of its administration is almost ludicrously defective and anomalous. We have a city corporation with great privileges and endowments, but whose jurisdiction is confined within what are now, considering the enormous and unexpected growth of the capital, absurdly narrow limits. We have outside those limits a Board of a very heterogeneous character, and whose members have very diverse interests; a Board which is not a direct representation of the public, but is elected from and by the vestries, who are proverbially the representatives of small views and petty local interests, and who retain their own authority and power of action (or inaction) in regard to many practical and sanitary matters quite independently of the Board of Works, which naturally has little power to control or influence bodies by whom officially it "lives and moves and has its being." From this state of things naturally follows the confused and divided action in regard to administration and public improvements, of which we are all only too conscious, from the absurd spectacle of the repair of two sides of the same street by different vestries at different times, and its double trouble and expense, to the more serious affair of the undertaking, by a practically almost irresponsible Board, of works on an immense scale, the principle of which has not been properly considered, and the results of which amount in some cases (as in that of the sewage outfall) to the throwing away, or worse, of enormous sums of money in elaborately doing the wrong thing. The fact that seventy-three members of the House of Commons deliberately registered, in division, their dissatisfaction with this state of things, is in itself something; and it must be remembered that the fact of a majority of forty the other way is not to be taken by any means as a protest to that extent in favour of "non-intervention." There is no doubt, from the tone of the debate on the 6th, that part of this majority consisted of those who regarded the resolutions of Sir U. Kay-Shuttleworth as too vague and general to do much good in reference to a question which demanded a Bill,—which had, indeed, been the subject of previous Bills of a somewhat elaborate nature; and, in fact, the tendency of the remarks made in debate was so generally in one direction as to draw from Mr. Stansfeld the observation that it had been a "onesided" debate, since, up to the moment of his addressing the House (immediately previous to the Home Secretary's speech in reply) not a single speaker had appeared in defence of the existing administration from any point of view.

The two alternative theories, as we may call them, which have been suggested as the methods of improvement on the present state of things, have been the extension of a central system of authority on the lines of the existing City Corporation, and the formation of a variety of sub-corporations of districts in federation with or affiliated to the City. The merit of this latter arrangement with those who recommend it is, we suppose, that it gets rid of the bugbear of centralisation of power which has been in some quarters regarded as so formidable a danger. But other merit (if this be one) it has not, that we can see. It would only be repeating the evil of the partial and local legislation of the vestries in a more systematised manner, leaving, perhaps, more direct responsibility to public opinion than is now the case, but otherwise affording plenty of scope for partial and local administration on possibly conflicting principles. Against the other scheme of extending the jurisdiction of the City and giving it a revised and extended representative constitution, there has been urged the danger of such a constitution gaining too great political power; becoming, in fact, what is called a "bureaucracy," with a practical power to do pretty much as it liked. It appears to us that this apprehension is unfounded; at all events, that it would be easy to frame a constitution providing sufficiently against such a danger by tolerably frequent re-election, and that direct public representation would offer opportunity in itself of making it far more immediately responsible to public opinion than the Board of Works has ever been. The objection that a body would be created too large to do its work, or charged with too multifarious and complicated a work for any one body to accomplish, is one which could only be put forward on grounds which really constitute a complete begging of the question. It is a universally accepted proposition that the most work is got through in the best manner in a given time, by organised division of labour, the want of which is precisely what is complained of now. The question is simply reduced to this: can the administration of London be best carried out by a great central body with sub-departments all acting under one head and on one harmonious system, or by two bodies of utterly different constitution and with no official connexion, and a number of little vestry-boards each with its own hobby and its own view of the way of doing things, constituting a practically independent "third estate" in addition to the other two? That is really the plain way of putting the question; and, putting it in that way, to make a question of it at all seems almost absurd. The Central Board would not need to be nearly so strong numerically as the aggregate of existing City authorities, Board of Works members, and vestry representatives, and it would have the enormous advantage in economy of time and means which must necessarily result from a methodically-organised system. And this very concentration of work would be rendered the more effective by the extent and power of the proposed municipal government, which (under proper constitution) would, in place of being dangerous to our "liberties," be all the more able to carry out the necessary schemes for the public good in virtue of its importance and weight. Sir U. Kay-Shuttleworth did not omit to point this out in his speech in bringing forward his resolutions. Referring to what he called "the old bugbear" as to the Municipal Government meddling with politics and interfering with the Imperial Government, he observed that though a great municipality would undoubtedly be more powerful and independent than any other form of local government, that very fact "would surely be of very great benefit to London. In the case of other municipalities it was found that the bigger they were the better they were, and that those against which most could be said were the very smallest." The half-dozen persons who constitute the "Corporation" of Muddleton Parva are in all probability, as far as their powers go, the most autocratic, self-interested, and deficient in real public spirit of all corporations, and the most comparatively wasteful of time and money. And it is only just to say, on behalf of the Board of Works, that the fears entertained when it was constituted, that it would discuss politics as well as sewerage, have been shown to be perfectly groundless. What charges we have to make against them are rather of deficiency than of supererogation; of leaving undone that which they ought to do rather than doing that which they ought not to do.

And, in our opinion, the real origin of some of these deficiencies of the Board of Works is one that is inherent in the elements of its constitution, and one which the formation of a larger and more central administrative body elected by the ratepayers would in itself tend greatly to remove. The Board of Works had its defender in the debate we are speaking of, in the person of its Chairman, who, as was right and fit, spoke up for the body which he represented, and maintained its industry, ability, and energy in dealing with practical problems. Now, in regard to the industry and application of members of the Board of Works we raise no question at all. The statistics quoted by Sir James Hogg show how regular in attendance on their duties the members are, and that they do not make their office anything in the way of a sinecure. Nor are we in any way disposed to dispute what their chairman said as to the ability and standing of the professional advisers whom they employ. We admit the capability of these gentlemen, and believe that the Board take every trouble to get the best men. But we all know that in such cases it is not in the end the officials who move the Board, but the Board which moves the officials. And it must be obvious to all who are competent to judge that the Board of Works has not shown the largeness of scientific view, the impartiality or the public spirit in regard to great works of public improvement, which we ought to find in a body trusted with such immense responsibilities on such a very irresponsible footing. The Board has shown a predilection for going its own way, for making *coups* in financing operations, for undertaking great and costly measures on an insufficient scientific investigation; and a disposition at the same time to shirk the difficulty of schemes that were urgently called

* It may be worth while to put on record here the wording of these resolutions, as one of the steps in an endeavour after a reform, which is bound to be carried out sooner or later. They were as follow:—

1. That in the opinion of this House, the present state of Local Government in London is unsatisfactory, and calls for reform.
2. That the whole metropolis should be united under one administrative authority, directly representing the ratepayers, and so constituted as to command general confidence.
3. That these conditions are not fulfilled under the present system of administration, partly by Vestries and District Boards, partly by the Metropolitan Board of Works, partly by companies trading in water and gas, while the functions of the Corporation are confined within the narrow limits of the City.
4. That the ancient Corporation of the City, if extended over the metropolis, and re-modelled in accordance with present wants, would best achieve the purpose of a municipality for London.
5. That this reform should be undertaken by her Majesty's Government without delay.

for; but which did not hit its humour or its theory of its duty to the public.

The attitude of the Board of Works in relation to the pressing question of the Thames floods has gone far to show us how little we can trust to a body, constituted as it is, for action in such cases of urgency. And what do we mean to blame in the constitution of the body? we may be asked. Simply this, that owing to the manner of its election, that class of men are not, for the most part, placed upon its roll who would be most large-minded in their views, and most independent in their judgment. This point was touched upon gently in the speech of Sir U. Kay-Shuttleworth; and it was obvious that it was not unfelt by the chairman of the Board, who made a bid for the applause of a part of his audience in certain remarks to the effect that, if some of his colleagues were butchers and bakers, the more credit was due to them for having raised themselves to a position of eminence, and that if men of high position and rank did not choose to direct their leisure and their talents to the public service, the discredit attached to those who did not do the work, and the credit to those who did it. This is just the sort of sentiment which is sure of a "Hear, hear," from some one or another in any large audience. But what is the truth of the matter? We do not wish to speak unkindly of any class of persons; but do we not know very well that the position of a member of the Metropolitan Board of Works is coveted by tradesmen who have been successful in their business as a matter of personal pride and satisfaction,—something to talk about to their friends and customers, to whom they retail the opinions of "Sir James 'Ogg," as they call their chairman? Is not the very fact of their entertaining royal personages at dinner the subject of jokes in *Punch*? And, to look at the more practical side of it, is it not notorious that the English middle-class tradesman, whatever his solid virtues (which we are the last to question), is of all existing persons the most utterly and radically "parochial" in his notions and his way of looking at things? And can it be expected that, the constitution of the Board being what it is, any number of "men of culture and position" are likely to be willing, or even to be allowed, to become members of it? Yet it is only by a Board composed mainly of such men that we can hope to see public improvements treated in the broadest and most comprehensive public spirit. This is exactly the merit of the House of Commons so far, that, to whatever level that assemblage may unhappily be destined to sink, it is still in the main composed of independent gentlemen who either have no private purposes to serve, or who are sufficiently public-spirited to put them entirely on one side. This is the quality which above all others seems to have struck some eminent Continental visitors who have examined into our Parliamentary Committee system,—its absolute and high-toned impartiality in dealing with subjects of public interest. And it is by the establishment of a great central authority, the members of which would be elected by the widest public suffrage, and be responsible directly to public opinion, that such a spirit in our local administration would be most likely to be attained. Under such circumstances an entirely different class of men would put themselves forward for election from those who now constitute the bulk of the Board of Works, and a correspondingly wider and more intelligent spirit in the administration of public works would be realised; and it would be worth while, for this object alone, to engage the interests and abilities of a superior class of representatives, that such a change in the administration of London local government should be brought about.

In regard to the centralisation of such a Government in the City Corporation, with extended jurisdiction over a greatly increased area, there may be a good deal of practical adjustment required; but we see no theoretical objection. As was remarked by one speaker in the debate (Mr. Ralli), "London had grown, but its central authority had not"; and to enlarge the powers of that central authority would simply be to return to the normal state of things; and we had the opinion of Sir Sydney Waterlow, who should know something of that matter, that the City would not be opposed to the carrying out of the changes which would be necessary to make it the administrative centre of the metropolitan system. No doubt these changes would be considerable; they might even be called by the favourite epithet of the opponents of reform, "sweeping." The Home Secretary said, indeed, that the meaning of Sir U. Kay-Shuttleworth's second and fourth clauses would come to this, that we ought to take the *prestige*, and property, and everything else belonging to the ancient Corporation of the City of London, alter them entirely, so as to meet modern requirements, and then extend them to the whole of London. That is a somewhat abrupt way of putting it, though in the main correct; but we hardly see how the *prestige* of the City would be destroyed, it would rather be added to. It is exactly because the ancient Corporation has such a *prestige*; because we cannot afford, even as a matter of association, to see it swamped or set aside; that it is proposed to make it the real centre of London instead of the pretended centre only. It would be a great piece of machinery to arrange and keep in working order, no doubt, but it would achieve the object which is in view with a completeness that no other arrangement yet suggested would realise; and this conviction was by far the preponderating feeling of the speakers in the debate. We therefore look to see the subject revived in a more systematic manner at no very distant date, when we hope that such a proposal will not only find a majority in votes, but a Home Secretary prepared to treat such an important topic with less of levity and indifference than Mr. Cross showed in replying on the debate in question.

ROUND CRIPPLEGATE.

CRIPPLEGATE Church is one of the shrines of London; and wherever the English language is known, St. Giles's is honoured as the last resting-place of our great poet Milton. It has, however, other claims to our regard, and the district in which it is situated is so full of interesting associations that we propose to gather together some notices of the chief of them in the present article.

The ground to the north of the City was originally a great swamp, impassable to the ordinary traffic, so that in the earliest times of London history no gates were required in the northern walls. The more adventurous of the inhabitants, however, objected to journeying round to the eastern or western gates, and posterns were therefore opened in the wall for their convenience. This was the case with Cripplegate, which is supposed to be named from the cripples who congregated about the place in order to beg from those that passed in and out. The earliest notice of the gate is referred to the year 1010, when the body of King Edmund the Martyr was carried into London through this entrance. The chroniclers relate that miracles were wrought by the body, and those who were lame departed upright from the Cripples' Gate. In a charter of William the Conqueror, confirming the foundation of the college of St. Martin's-le-Grand, the place is also mentioned. "I do give and grant to the same church, and canons serving God therein, all the land and the moore without the postern, which is called Cripplegate, on either side the postern." Stow, following Fabyan, tells us that the gate was rebuilt by the brewers of London in 1244. If so, it must have been by some private agreement, for the brewers were not incorporated as a company until the sixteenth year of Henry VI.'s reign. Like several of the other gates, Cripplegate was used for a time as a prison, and it appears, from a writ of Edward I., that it was so appropriated in his reign. Edmund Shaw, goldsmith and mayor, 1463, left directions for his executors to rebuild Cripplegate with the old materials, at an expenditure of 400 marks, and this was done in 1491. It was repaired in 1663, and in 1760 was sold to the Commissioners of City Lands for 91*l.*, and pulled down in 1762. A barbican, or watch-tower, was built to the north of the gate, as an outwork for observation and defence, and the little village, with its Fore (or chief) street, which grew up outside the walls, was sheltered behind it. The care of this important position was naturally given to trustworthy persons; and there is an interesting little story connected with it. Edward III. appointed Robert Ufford, Earl of Suffolk, keeper of the barbican, and from him it descended in course of time to Catherine, daughter of William, Lord Willoughby de Eresby, who married, firstly, Charles Brandon, Duke of Suffolk, and secondly, Richard Bertie. Bertie and his wife, the duchess, were Protestants, and, in Queen Mary's reign their lives were in such great danger that they had to fly from the country. Between four and five o'clock on the morning of January 1st, 1554-5, the duchess began her adventurous journey, in a thick fog. It was her intention to proceed from her house in the Barbican, with her little daughter (a child of a year old) and a small party of trusty servants, to Lion Key, near Billingsgate, where she expected to be able to embark for the Continent. She had to escape with the greatest secrecy, for no confidence could be placed in the bulk of her dependents, but in spite of all precautions, her departure was discovered. After she had descended as noiselessly as possible, and passed into the street, she was alarmed by the appearance of a person issuing from the house, bearing a torch in his hand, and evidently bent upon discovering the cause of the unusual bustle at this early hour. The Duchess was standing up under a gateway, and the light of the torch might at any moment be thrown upon her so as to reveal her hiding-place to the man. She therefore left her luggage and provisions and fled, but her pursuer was close at hand, when she suddenly turned into Garter House (of which we shall have more to say further on). The man seeing no one, retraced his steps; on his return he discovered the baggage, and while he was examining its contents, the duchess again issued forth. She dared not pass into the City through Cripplegate, but walked on to Moorgate. Thence she proceeded safely to Billingsgate, and there found her husband. All these adventures are related in a ballad sung to the tune of "Queen Dido," and entitled,—"The most rare and excellent History of the Duchess of Suffolk, and her husband Richard Bertie's Calamity."

"The Dutchess of Suffoulk seeing this,
Whose life likewise the tyrant sought,
Who in the Hopes of Heavenly bliss
Within God's word her comfort wrought;
For fear of Death was forc'd to fly,
And leave her house most secretly.

That for the Love of God alone,
Her land and goods she left behind,
Seeking still that precious stone,
The word and truth so rare to find;
She with her husband, nurse, and child
In poor array their sighs beguil'd.

Thus through London they pass'd along,
Each one did take a several street,
And all along escaping wrong,
At Billingsgate they all did meet,
Like people poor, in Gravesend barge,
They simply went with all their charge."

It was some time before they were able to quit England, and abroad they had months of travelling in constant fear of capture. At Wesel the duchess gave birth to a son, who was named Peregrine, from the circumstance of his being born in a foreign land, and during the wanderings of his parents. This child grew up to be one of Queen Elizabeth's greatest generals, popularly known as "brave Lord Willoughby." In 1586 this lord's agent wrote to him in the Low Countries "from your own open gallery" in the Barbican; and ten years afterwards Willoughby himself was living at Willoughby House.

We have already mentioned Garter House, which stood close by the Barbican. It was built by Sir Thomas Wriothesley, Garter King-at-Arms, and uncle to Thomas, first Earl of Southampton; and the house was long kept in remembrance by the name Garter-place. The mansion afterwards came into the possession of the Bridgewater family; but in April, 1687, it was burnt down, and the two eldest sons of the third Earl of Bridgewater, with their tutor, lost their lives in the fire. Bridgewater-square (which Hatton thought to be pleasant, and Strype called handsome and very delightful), and the dirty Bridgewater-gardens, mark the site of the house and its grounds.

Beech-lane, Barbican, either took its name from the beech-trees that once grew there, or, as Stow guesses, from Nicholas de la Beech, Lieutenant of the Tower of London, who was put out of that office in the thirteenth year of Edward III. Here was formerly the mansion of the Abbot of Ramsey, intended to serve as his town residence. Afterwards it was called Drury House, from being the residence of Sir Drew Drury. Subsequently to the Restoration, Prince Rupert occupied the house, and it appears that on one occasion the ringers of Cripplegate Church bells were paid a guinea by the parish for complimenting Charles II. with a peal when he visited the Prince.

It is not known at what time the Barbican was destroyed, and Dryden wrote:—

"A watch-tower once; but now, as fate ordains,
Of all the pile an empty name remains."

This, however, is not true, for the street called the Barbican will ever be famous as the residence of the great antiquary, Sir Henry Spelman, and the still greater man, John Milton. The poet's name has been given to the notorious Grub-street, which is now a thing of the past. Perhaps, as the street has been almost entirely rebuilt, and the old timber-fronted houses have left their mark only at the Fore-street corner, it is well that it should be re-named; but it is impossible not to regret the disappearance of a name of such world-wide fame as Grub-street. In spite of the ridicule that has been heaped upon it, a goodly roll of its distinguished inhabitants might be drawn up. Fox, the martyrologist, was one, and John Speed, the tailor and historian, another. One of Fox's neighbours rebuilt his house so as to darken the poor author's windows, and a letter is extant in which Fox expostulates with energy on the injury done to him. One Hopkinson "an obscure and simple man for worldly affayres, but expert in all the left-hand tongs," lived in Grub-street and drew to himself there many learned men, one of them being no less a person than Lancelot Andrews. James Whitelocke, a merchant tailor's boy, who gained honour at Oxford, and was afterwards Justice of the King's Bench, went through a course of Hebrew with Hopkinson. Even after the Great Fire the street was not in disrepute, for we find that the Goldsmiths' Company met here temporarily in the house of Sir Thomas Allen, grocer, and Lord Mayor in 1659. As Thackeray justly observes, it was Pope "who brought the notion of a vile Grub-street before the minds of the general public; he it was who created such associations as author and rags—author and dirt—author and gin. The occupation of authorship became ignoble through his graphic description of misery, and the literary profession was for a long time destroyed." The first use of the term "Grub-street," in an offensive sense, has been traced to Andrew Marvell.

Some of the houses in this neighbourhood were formerly well inhabited and handsomely decorated: thus in Hanover Court or square (a turning out of Grub-street) General Monk is supposed to have lived in the reign of Charles I. The house, which was principally built of oak and chestnut, was pulled down in 1821, and three brick houses were erected on its site. In another court called Sweedon's-passage was an old wooden building traditionally said to have been the residence of Sir Richard Whittington, in the reign of Henry IV., and of Sir Thomas Gresham in that of Elizabeth. It was pulled down in March, 1805, and three small houses now occupy its place. J. T. Smith inspected the so-called Gresham House in 1791, and has left the following description of it in his "Ancient Topography:—"It must have been the mansion of some opulent person; and Sir Thomas Gresham, who is said to have been an inhabitant, might have altered it; for of all the houses I ever inspected in London, none were so substantially built. The timbers were oak and chestnut, and used in the greatest profusion. The lower parts of the chimneys, on the ground floor, were of stone, in some instances blocked up, and in others considerably lessened. The rooms had been contracted, as the wainscot portions in three instances divided the ceilings, which, when whole, must have been ornamented in a regular manner, as large masses of the cornice were visible in some of the modern closets."

Not the least interesting of the streets of Cripplegate is Golden or Golding lane, in which the Fortune Theatre (a square building of lath, plaster, and timber) was built by Henslow and Alleyn in 1599-1600. On Dec. 9, 1621, this building was burnt down, and a new circular theatre, of brick and tile, was immediately erected on the site. It was here that Alleyn made a large part of his property, and amused the town by his fine acting. In 1649, the inside of the theatre was destroyed by a company of soldiers, incited by those who wished to put down all theatrical entertainments, and in 1661 the ground was advertised to be let for building purposes. Close by was the *Nursery*, a school established for the education of children for the stage after the Restoration, which is mentioned in Pepys's Diary, under date Aug. 2, 1664:—"To the King's Playhouse, and there I chanced to sit by Tom Killigrew, who tells me that he is setting up a nursery; that is, going to build a house in Moorfields, wherein he will have common plays acted."

Redcross-street takes its name from a red cross that formerly stood there. Close by was a large plot of ground called Leyrestowe, or the burial-place, which was the only spot where the Jews could bury their dead, until they were permitted, in Henry II.'s reign, to have a special place assigned them in each of their quarters. After the Jews had been expelled from the country the place changed its character, and in course of time houses were built upon the old cemetery; the remembrance of which, however, was kept alive by the name of Jewin-street. It is not quite clear whether the form "jewin" is a plural of *jew*, as oxen is of *ox*; or whether it is an adjective like "golden" and "wooden," from *gold* and *wood*.

Having noticed some of the chief features of Cripplegate, we now come to the consideration of the history of the parish church. Ben Jonson makes use of the simile,—

"As lame
As Vulcan or the founder of Cripplegate;"

but his authority is not of much value in this case, and the received opinion that the gate obtained its name from the cripples who congregated around it is the more probable. When Alfuin, the almoner of St. Bartholomew's Hospital, built the first church outside the gate, about the year 1099, he dedicated it to St. Giles, because that worthy physician and bishop, who wrote a poem on paralysis, was the patron saint of the lame. Little or nothing is known of this old church, which was burnt in 1545, and history begins with the new one, which was soon after erected. The first vicar mentioned in Newcourt's list is Robert Crowley, the printing parson, who did much good in his day, but was always getting into hot water. He held the vicarage for a very short time, being deprived and prohibited from preaching or ministering the Sacraments within twenty miles of London by Archbishop Parker. He had a great aversion to the surplice, and is reported to have said that "he would not be persuaded to minister in those conjuring garments of popery." It appears that Crowley and his curate expelled from the church divers clerks who were there in their surplices to bury a dead body. The clerks alleged that it was the custom, and that "my Lord of London" had commanded them to wear surplices within the churches. This gave rise to some tumult, and when Crowley appeared before Parker to answer for his behaviour his conduct was such that the archbishop "could do no less" than order him to be imprisoned in his own house. The Lord Mayor also lodged a complaint against Crowley, but the accused answered that he would not suffer "the wolf," as he called the "surplice man," to come to his flock. At another time he quarrelled with the singing men about the "porters' coats," and said he would set them fast by the feet if they broke the peace. The authorities were too much for him in the end, and although he boasted that he would preach until deprived, and that he would be deprived by order of the law, the Archbishop "dulled his glory." Another vicar was Lancelot Andrews, Bishop of Winchester, who died at Winchester House, Southwark, in 1626, and was buried in St. Saviour's Church. After Andrews came Dr. Buckeridge, Bishop of Rochester in 1611, who was translated to Ely in 1627, through the influence of his sometime pupil, Laud. William Fuller D.D., was sequestered from his church, in 1642, and imprisoned for his loyalty. He lived obscurely in London, where he died, and his body was conveyed to St. Vedast's, because it was refused burial in his old church.

St. Giles's has been repeatedly restored. In 1682 the steeple was raised 15 ft., and in 1791 the clearstory, which contains seven modern windows with pointed arches, was rebuilt with brick. The walls are filled with monuments, and as a large number of worthies have been buried here, several are of considerable interest. That to the memory of Fox, the martyrologist, who is described in the Register as "Householder and Preacher," is one of these. He was accused of heresy, and expelled the University. Sir Thomas Lucy, of Warwickshire, then received him into his house as tutor to his children. Other monuments record the names of "skilful Robert Glover," as Stow calls the Somerset Herald, who died in 1588; of John Speed, the tailor and topographer; of Margaret Lucy, second daughter of Sir Thomas Lucy; and of Constance Whitney, grand-daughter of the same. The remains of the distinguished mariner, Sir Martin Frobisher, also found a resting-place here, as did those of "John Milton, gentleman." The honour of erecting a monument to our great poet was left for Samuel Whitbread, who placed a bust, by Bacon, and a tablet, on the walls, in 1793. Still another great man is associated with the church, for on August 22, 1620, Oliver Cromwell and Elizabeth Bourchier were married here. In the latest alterations of the church the gallery was cleared away, and the monuments can now be seen more easily than before. The Sunday congregations tolerably fill the church, and all round the building are seated the charity boys and girls. The beadles carry maces before the clergymen, one being surmounted by the figure of St. Giles, and the other by the representation of Cripplegate.

In the churchyard is a buttress of the old City wall, and the houses over the entrance-gateway are of a date anterior to the Great Fire. Close by Cripplegate was Aldermanbury postern,—a small gate in the wall which led into Moorfields, the name of which is still retained for a street. Aldermanbury was so called from the City Court-hall, which was situated there before it was transferred to Guildhall. Stow found the place mentioned in the first year of Richard I. (1189), and writes,—"I myself have seen the ruins of the old Court-hall in Aldermansbury-street, which of late hath been employed as a carpenter's yard."

The most interesting relic of that part of the ward of Cripplegate within the walls is the piece of the burial-ground of St. Alphage, which has been retained as a garden, and railed off, so as to preserve a bit of the old City wall that still remains. The church, an ugly building erected in 1777 by Sir William Staines, is on the opposite side of London-wall. The original foundation was the old Hospital or Priory of St. Mary the Virgin, "for the sustentation of one hundred blind men," called Elsing Spital, after William Elsing, the founder and first prior.

In Norden's map of London, 1593, the church is called St. Taphyn's, a curious form of the name similar to Tooley for St. Olave and Tanthony for St. Anthony. St. Alphage was bishop of Winchester in the year 984, and Archbishop of Canterbury in 1006. He was taken prisoner by the Danes, and murdered at Greenwich. His name appears in many forms, such as Alfege, Elphege, Alphy, and Alfin.

A portion only of Elsing Spital (viz., the priory church) was used by the parishioners of St. Alphage, and the remainder, with the garden, was purchased by the executors of Dr. Thomas White, vicar of St. Dunstan's-in-the-West, in order to found a college and library for the use of the clergy of London. Sion College, with its interesting buildings, still remains, in spite of damage done by the Great Fire, a truly picturesque bit of Old London. Cripplegate, until lately, contained libraries for the Church of England and for Dissenting Ministers, but Dr. Williams's Library in Redcross-street has now been removed to Grafton-street, Tottenham-court-road. Thomas Fuller inhabited chambers in Sion College while he was collecting materials for his church history. Not far off is Wood-street, famous for its Compter or prison. Here lived in the reign of Richard II. Sir Henry Percy, son and heir of Henry Percy, Earl of Northumberland, and in his house he received the king, the Dukes of Lancaster and York, the Earl Marshall, and others at supper.

We must now close our notice of some of the interesting features of Cripplegate,—a portion of the City that has still more of the appearance of antiquity than many other parts; but even here the builder is moving on, and the old houses are being rapidly replaced by the new.

Hooton.—On the 24th ult. the ceremony of blessing the foundations of a new Catholic church was performed at Hooton. Since the Hooton Hall and estates passed away from the Stanley family, the Catholics, who used to worship in the domestic chapel of that family, have had to find some other place of worship. For a considerable time they went to Paddington Chapel, also belonging to the Stanleys. However, the present baronet, Sir John Stanley Errington, has begun a new edifice on a plot of ground which was purchased from the representatives of the late Mr. James Craven, within half a mile of the Hooton Hall, and twenty minutes' walk from the Hooton Station. The building will be in the Early English style, from designs by Mr. E. J. Tarver, architect, London. The dimensions are:—Length, 75 ft.; width, 29 ft.; length of nave, 51 ft.; height, 38 ft.; and to finial of bell-cot, 54 ft. There will be two side chapels, besides vestry.

AMERICA AT THE PARIS EXHIBITION.

WE heard in Paris, more than a year since, and announced in these columns, that the Americans intended to make a great show at the forthcoming Exhibition, and that all kinds of American industrial and artistic objects might be expected to adorn the palaces of the Champ de Mars and the Trocadero. The great figure of Liberty (we have forgotten how "tall") was to be erected at the highest point, and was to hold in its hand a light, to illuminate the whole of Paris, while pictures and statuary of more than usual skill and beauty were to surround the enormous emblem, the reality of which had enabled the Americans to accomplish so much. Then came a time,—months and months of prudent silence,—those moments so much prized by Americans in matters of business, during which, they say, they keep better than any other people "a stiff upper lip," and now thought and work are beginning to show the result of their laborious wisdom.

Without this happy association of capitalised thought, not all the monetary combinations in Wall-street and the Five Points, manipulate them ever so deftly, or all the quiet schemes elaborated during weeks of reflection in the Tombs or other reformatory establishments, can succeed in astonishing the rest of the more modestly laborious world.

So we now hear of several ships of the United States' navy having already sailed almost overladen with the magnificent result of the last year's artistic and other labours of this great country. All having been gathered together, we are told, by Commissioner M'Cormick's energetic labours, that have removed the host of difficulties which have stood in his way, and the vessels under his command are now carrying cargoes to France, which cannot fail, so the papers declare, "once more to win the acknowledgment of the world for American skill and enterprise."

"Every branch of manufacture and fine art," it is said, "will be represented," on a scale even larger than usual, and not easily to be overlooked by the wickedly envious world.

We ungrudgingly give our warmest admiration to the only object we have seen here purposely constructed for the Exhibition, a huge tramway-carriage, destined ultimately, after receiving the admiration of the united world at Paris, and the award of the judges, to adorn the line of tramways running between Moorgate-street in the City and the Green-lanes at the north-east of London; that is, if some lover of American landscape art do not purchase this triumphant car in order to secure the panels on which have been brightly painted, by the skilful hands of their best craftsmen, picturesque American landscapes, wherein may be seen the brighest tints and the highest waterfalls that the untravelled can realise.

Eighty pictures have been sent by American artists, chiefly from New York state, and, as is usual, when commissioners and committees are employed to select works of art, the dissatisfaction amongst the artists here is distressing. Whether the gentlemen who appointed themselves as judges have done their work well, will be seen when the pictures they have selected are arranged underneath the banners that will decorate the apartments, and we are inclined to the opinion that, so far from their having exercised any narrow illiberality in their selection, had they confined their desire for distinction to that which is obtained by absence they would have been more likely to gain honour; the American artists, who rarely fail to combine a shrewd knowledge of business, will find no difficulty in obtaining an opportunity to show somewhere in Paris those pictures that they here think should have been seen in the Champ de Mars.

It will really become a curious fact if it should be shown by the Americans at this year's Exhibition, that they have contributed one single American-born object of really beautiful art; for such a result would inevitably lead to some novel ideas as to how the growth and attainment of true art are developed, and would certainly become some evidence that it is a correct theory which so many of us hold, that the nearer to savage barbarity the greater the perfection of the design.

But American artists do not appear desirous of displaying their native powers of ornamentation, and so far the real North American art will make but a poor show this year in Paris. The true artist in the distant wigwam is relaxing his interesting labours, and is only too glad, like his friends in Washington, to adorn his household and his person with the products of the European *ateliers*.

But in the absence of real North American art, cultivated or not, we shall, indeed, be amply compensated by the presence of that charming school of Franco-American artists who, residing altogether in Europe, are beginning to show, if they have not already done so, that American painters and sculptors are unsurpassed by any other nation in that exquisite perception of the real associated with the ideal, of that delicacy of perception which constitutes good art.

With the exception of Professor Edison's phonograph, which we are now told, and told correctly, was suggested as far back as 1865 by an Italian mechanic of the Val d'Aosto (Signor Manzetti), and published in the *Diritto* of Rome in its issue of July 10, 1865, and in the *Petit Journal* of Paris, November 22, 1865, and with the addition of a marvellous stocking-loom, we hear of no contrivances calculated to gain for the Americans fresher laurels, or more chances of niches in the Temple of Fame; but the world may safely look forward to a contrivance or two, an adulterating mixture, a help in some way or other for which we may have to be grateful, and to not a few easier ways of doing imperfectly henceforward many things that some of us were just on the point of beginning to do tolerably well without the aid of machinery.

We may expect to see some really useful furniture. We can certainly promise a kitchen-table combined with the convenience of an ironing-board, the price of which will satisfy the poorest European. Of ornamental furniture, whatever America sends that may prove to be really good will be the production of some exiled German or Belgian art-workman.

India-rubber in every shape will, of course, be well represented, for the Americans are prepared to erase everything, and are contriving to do so with a facility equal to that of the pugnacious public schoolboy represented by the immortal Leech,—in the character, by-the-bye, of your present Prime Minister,—who, on being asked what he intended to do next half, replied he was prepared to "smash everybody."

Buckwheat and corn, "in all styles," are expected to secure the glorious distinction they so well merit; and American "wines, watches, and even chocolate," are said to be likely to beat even the famous manufactories of Paris.

There can be no question that Americans intend to exhibit and compete with other countries at the Exhibition in May in the nicer industrial arts long before they are prudently warranted in doing so, judging by the condition of their own home affairs.

On no just principles whatever can any good art emanate from a people until they have shown a little more earnestness to condemn, and a great deal more detestation of the vicious conditions of so many existing evils that shock one here in every direction.

If art could be successfully followed in an agricultural village, away from large towns and rapid transit, of a silver currency and combinations of capital for building purposes, then might there be as good a prospect for the arts in this country as there may exist at present in Cental Africa or the North Pole; but so long as New York prides itself on its present triumphs, and is content with the peculiar organisation of its society, it will assuredly have to continue to rely for its art on the imported manufactured merchandise that it now receives.

Preparations are being made by all the steam-packet companies to carry passengers this May at scarcely cheaper rates, and with the favoured lines the rate of passage has been increased; but it is expected that, notwithstanding the hard times, Americans will "show" in Paris to the extent of some fifty thousand or so, a force strong enough, supposing the half of that goodly number are feminine, to win the world's admiration for their personal beauty, and its envy, we hope not its imitation, for its lavish methods of adornment.

New York.

Proposed New University.—A movement has for some time been on foot for the establishment of a new university in the North of England, and the Corporation of Bradford have been invited to adopt a memorial to the Privy Council in favour of the proposal.

YORK.

NEAR the centre of the great county of which it is the capital is York,—by no means the largest, but certainly one of the most notable towns in the wide county. With its origin incapable of being accurately traced in the by-paths of ancient obscurity, but known to date back its reliable record for over 1,600 years, the old city might have been excused had the dimness of age, or the decrepitude preceding decay, been observable in it. It had its troubles from the days of the Romans down to those of the Conqueror, who wrathfully revenged himself upon it for a stubborn defence. Down through the brawling centuries since, it has been a place of historic note, now furnishing the meeting-place for the first Parliament, now earning notoriety for the massacre of the Jews, now erecting its superb cathedral, now receiving civic dignity beyond that of any other English city save the metropolis,—honoured and honouring it has passed a busy career, as became a city which has been "heir to all the ages in the foremost files of time."

Unquestionably the notoriety has been in part due to its situation, and in part to other causes; and its commercial importance is also due to a variety of reasons. As the centre of a vast district, it has become an agricultural mart; as the head-quarters of one of the four chief English railways, it acquires importance and wealth therefrom; and in other modes its situation ministers to its growth. It has acquired much greater commercial importance in late years; its industries have become larger and more varied, and it has lost to a large extent the air of dignified and idle repose upon past laurels which in bygone years characterised it. When two score years ago, gazetteer compilers had to describe it, it was in a mode much as did one of the best at the date named; the "city is not signalised by numerous or eminently-important manufactures," the chief enumerated being the linen, flax, and bleaching trades, the manufacture of combs and gloves, with tanneries and old-world industries. But the principal trade was "retail, which is generally pretty brisk, supported by the many genteel and opulent families resident in York and its respectable vicinage." These days are gone, and York, adapting itself to a changed age, is no longer content with a "retail trade."

In 1831, the population was only 35,362, but in two-score years it had advanced to 50,765; and though the rate of increase is small compared with that of some Northern towns, it is considerable when the peculiar circumstances of the city and its previous comparative freedom from manufactures are taken into account. Unquestionably the chief factor of the increase has been due to the growth of the railway system. When the railway system reached York, its importance now could scarcely have been imagined, nor could it have been credited when, so late as 1853, the capital of the York and North Midland was 5,600,000*l.*, that the time would come when its successor would have a paid-up capital of 54,000,000*l.* Of that vast capital invested in lines and working stock, York is the brain, and it claims no small portion of the revenue of 6,500,000*l.* it yearly brings in. Chief amongst its industrial establishments are the various works of the paternal railway company which has taken York into its keeping. It "maintains" between 200 and 300 locomotive engines used on that part of the system converging towards York; it constructs in ordinary years 100 carriages and nearly 3,000 wagons, and it repairs about 22,000 of the latter and nearly 3,000 of the former yearly in "good times." In the works needed to do this, and in the oversight of the permanent way, there are ordinarily close upon 2,000 workmen employed, and the weekly wages bill for these workmen was about 2,800*l.*; but it and the numbers have, in these times of depression, undergone reduction. Add to even the reduced figures the number of officials of a higher grade, and it will be seen that, the contribution, financial and numerical, of the North-Eastern Company to York is large indeed. Other industries have become important: its glass manufactures especially and exceptionally so; some of the older trades have attained a larger growth, and its miscellaneous trades have also grown. But its situation, at some distance from the mouth of the river, and away from the workings of the great stores of mineral treasures which go so far to build up Britain's greatness, and which give rapidity of increase to her cities and towns,—that situation prevents

the planting of the more prominent industries of the North in York. Her skies are freer from the smoke and the gloom attendant on factories and furnaces, and her river runs tolerably pure. Although, as we have seen, manufactures are fixing their seat there, yet perhaps York is better known for its being the junction-point of so many railways; and instead of the lumbering old coaches which traversed the town, at least 130 trains from North, South, East, and West, enter its noble station daily.

From the position to which the ancient city has attained in episcopal matters, it might have been expected that there would have been a considerable number of churches, and this is so, in addition to the chief ecclesiastical pride of the city,—its noble minster. Nor is Dissent much behind its mitred sister; for in numbers, in influence, and in the beauty of some of their sanctuaries, the Dissenters are prominent, and in other edifices the city is fully equipped. It owns a magnificent railway-station, certainly without any superior out of the metropolis for commodiousness and stateliness of structure; and though some of its public buildings are in the garb of by-gone days, yet there are others which would do no discredit to towns of larger population and of greater pretensions in architectural matters. York has all the tokens of a large population, and it has others not so invariably associated with it. It has, as the county town too often has, the representatives of the criminality of the populace, and it has other tokens of the evils in which humanity struggles. Its lunatic asylum holds 167 inmates, and thirty-two admissions thereto are yearly made, to recruit the unhappy numbers thinned by death and by other causes, and in the same city a more private asylum holds those connected with one of the religious bodies who have been similarly afflicted. With its known wealth, York has much also of poverty, and the inmates in its union workhouse vary from 500 to 600; whilst outdoor relief is given to from 600 to 700, as well as to from 100 to 200 vagrants. Although criminality in the city has diminished, as it has generally in the North, yet there are from 300 to 400 persons charged with crime in its bounds yearly still, and of these over 200 are "drouthy clay." It has its suffering, also, and its dispensary has in a year nearly 6,000 patients under treatment,—some ninety-seven being admitted weekly. Its School for the Blind gathers in those from whom light is shut out, from various parts, and over eighty of such are inmates of it. And generally it may be said that of the various institutions for the relief of suffering, for the promotion of social and secular improvement, and for the advancement of philanthropic objects, York has its full share. Like most ancient towns, it has its reminiscences of the past, alike in look and in institution; but in the former respect much is being done to efface this, and in the latter something has been done to modernise them. The position of the city naturally helps those movements; for the continual stream of traffic pouring through any place, by coach and by rail, has an inevitable tendency to obliterate in some degree the traces of singularity or of old-fashionedness in manners, appearance, or institution.

As the advance of York has not been so rapid as that of some of the younger towns in the great county of which it is the capital, so its future does not shadow forth any probability of great increase. But its commanding position, its natural facilities, and the acquirements which it has become heir to, give it a position entitling it to the prospect of a solid progress,—meeting not with the checks which perhaps are the inevitable accompaniments of those bounds in the race of development known to towns in the centre of great deposits of coal or iron. Round it there is a wide and fertile agricultural domain, and it is not only the mart of the produce of this, but it is also its source of supply for much needed by the earth to enable it to bring forth "fruit after the kind" of each. It is the practical centre of a vast system of railway which holds a monopoly of the greatest iron, coal, and lead-producing districts in the country. Its industries are varied, if not in every case extensive; its public buildings,—cathedral, churches, station, and some others,—are erections worthy of its fame. Its citizens have a public spirit which often displays itself, combined with a caution allied to that of the proverbial character of the denizens of England's largest county. It has, unquestionably, some of the slowness to move so often known in ancient places; and it has not those opportunities for the creation of gigantic industries which other northern districts have. But there remain in it undeveloped possibilities, which the future may transform into facts, and the transmutation of which is rendered more easy by the facilities it has acquired of late. It has wealth and influence,—vast motive powers; it has also unquestionably advantages, given by its railway facilities and position, and these it is not slow to make the best of; and it has the benefits naturally accruing from its county position and its central state. Altogether, looking to the greatness to which it has been born, to that which it has achieved, and to that which has been thrust upon it, the future of York should be one which it may contemplate without envy of its more quickly-developed neighbours, and with some amount of pardonable pride.

WESTMINSTER ABBEY AND PRECINCTS, PRESENT AND FUTURE.

In a map before us, drawn during the first years of this present century, it is curious to note how much we miss of what is now called *London*. By comparing it with a quite new map of to-day, it seems hardly possible that it can be the same town we are looking at. And this difference does not lie wholly in the mere *size* of the City, but in its details every here and there, and in the alterations and improvements,—to use that, perhaps too wide term,—visible everywhere, and in no spots so markedly as in what are called "open spaces," and in the green spots of grass-covered ground. This, we say, is to be noted everywhere; but nowhere, as we think, more so than in and about Westminster Abbey, or the Abbey "Precincts,"—a somewhat exclusive spot, and in very many ways one *per se*. It is yet a bit of *Old London* even as it is, in spite of all improvements and modernisings. No lover of the picturesque and of art can be otherwise than attached to the Abbey and its surroundings, and all must feel that to preserve it is not to keep things out of use and because *old*, but to retain memorials of a past state of things and remembrances,—of those especially who have gone before us in the work of this world. We wish to refer here more especially to the wide open space to the *north* of the Abbey,—to that spot of ground on which the "obelisk" *was* to stand. We would hint at a better purpose for it.

No one can pass through London streets and squares, and open spaces, without being struck by the sight of divers "statues" of eminent and illustrious men,—from the statue of Nelson, on the top of his column, where he cannot possibly be seen, to that of Cobden, somewhere or other in Camden-town! These "effigies" are put about in all sorts of ways, and without reference as to what the living originals did in this world of ours when in it. But few, perhaps, even more than glance at them, not pausing even to look at their names. Would it not be an improvement, at least in the future, to bring such memorials together into one space, as at Westminster, clustering round the old Abbey, and thus to make of this empty space we have referred to a *Campo Santo*, and a place to go to, to find the memorial of a remarkable man,—whether of the State, or in science, art, or literature? Here they would certainly be seen, and note made of them. Some attempt, too, might perhaps be usefully made to group them together, and to show *historically* what the men of England have accomplished for it and for the world. Some thought and care would here doubtless be required, but these could in such a place hardly fail. It would be difficult to make note of a want, looked at in many ways, more urgent than this, for it always seems to be a puzzle to those who have the management of the details of a public memorial to know what to do with it when ready.

In thus looking at the ground on which this Abbey is built, we must not forget that we are not travelling beyond the ground on which the Abbey and its buildings once stood, as its Precinct was much larger than now, as may be seen by reference to the plan attached to Dean Stanley's book. It is painful to think of the destruction that has occurred beyond all help, but we must need look at things as they are, and make the best of them. The plan in Dr. Stanley's book is of the date 1535, and shows things different indeed from those we have seen in our map of 1810; different as *that* is from the present state, all ways looked at. That once on a time grim old fortress the Sanctuary is gone for good and all, with the belfry close to it. The Almonry is as much a thing of nought as the elm-trees are, near which it was built. Westminster Hospital and the National Schools now occupy this ground, and have succeeded the now-a-days useless Sanctuary, but the mere building might perhaps have been spared, if only to read a lesson to the curious.

"Not, surely," says the eloquent author of the "Memorials" of his Abbey,—"not surely in vain did the architects of successive generations raise this consecrated edifice in all its vast and delicate proportions, more keenly appreciated," he says, "in our own day than in any other, since its first building, designed as it is to lift us Heavenward, and to things unseen!" And if so, and few doubt it, then must the extension and enlargement of such an idea be worthy of all effort. The Abbey, as we have said, is not a church only, but a vast sepulchre,—a part of a Campo Santo, but not large enough. And thus it is that such extension of it, and so to speak guide to it, would, we cannot doubt, be joyfully hailed by all who feel interest in such a building and its purposes. Well might the now vacant and all but useless ground, be worthily and attractively occupied, as such like spots are in so many of the Italian cities; the famous Pisan Campo Santo, for example, founded in the year 1108, though nothing of that early date is now visible there. The present structure which grew up on its foundations and ruins, and built by Giovanni Pisano, might furnish some useful hints. We forbear details; we would but direct attention to the bare ground,—to a want of the day,—and to the opportunity there now is for at least a little timely thought about it.

THE FINE ARTS, INSPIRED BY THE LIVING SCHOOLS OF NATURE.*

"There is but one presiding principle which regulates and gives stability to every art. The works, whether of poets, painters, moralists, or historians, which are built upon general nature, live for ever; while those which depend for their existence on particular customs and habits, a partial view of nature, or the fluctuation of fashion, can only be co-evil with that which first raised them from obscurity."—*Reynolds*.

In every country where the fine arts are now cultivated, to copy nature, to study the antique, are directions impressed on every student.

Reynolds correctly asserts that Bacon studied brevity to excess, and therefore his meaning was sometimes doubtful. If Bacon meant that beauty has nothing to do with rule, he is mistaken; there is a rule obtained out of general nature, to contradict which is to fall into deformity. Nature is, and must be, the fountain which alone is inexhaustible, and from which all excellences must originally flow.

Frequent exercises in drawing and modelling are necessary in academies, with living models before the eyes, where nature can be imitated, or rather translated according to certain conventional modes and forms.

The student must

> **"Keep Nature's great original in view,**
> **And thence the living images pursue."**
>
> *Horace.*

A close examination of nature is an excellent preparative to the study of art, and enables the student readily to comprehend the principles on which his predecessors worked, and to render their labours available to himself.

The knowledge of nature is the first ingredient towards a just estimation of the merit of art; the eye which is well instructed will unquestionably be agreeably affected at the sight of an elegant statue, picture, or design; and if such an eye be not attracted, it is a probable proof that the performance does not combine, in any high degree, the requisite qualities of excellence.

To assist the imagination a happy selection of nature, seen in her best moments, has been suggested,—as the poet expresses it,—

> **"To snatch a grace beyond the rules of art."**

Recourse may also be had to the various effects of accidental causes, which show themselves in objects around us.

The skilful painter has the penetration to discern the character of nature, which varies in all men. Hence the countenance and gestures of the persons he paints continually vary.

The excellence of every art consists in the complete accomplishment of its purpose; and if, by a false imitation of nature, or mean ambition of producing a picturesque effect or illusion of any kind, all the grandeur of ideas

* By Mr. W. Pettit Griffith, F.S.A.

which this art endeavours to excite be degraded or destroyed, we may boldly oppose ourselves to any such innovation.

Whether at home or abroad, in the streets or in the fields, every object that presents itself is to the student a lesson. He regards all nature with a view to his profession, and combines all beauties, or corrects her defects. He examines the countenance of men under the influence of passion, and often catches the most pleasing hints from subjects of turbulence or deformity; and he improves upon the fanciful images that are sometimes seen in the fire, or are accidentally sketched upon a discoloured wall. Some years since an artist was painting the "Judgment of Solomon," and just as he was about to begin the mother agonised for fear her child should be cut in two, in passing Temple Bar he saw an interesting boy killed by the kick of a blood-horse, and the mother rush in agony to her son. The artist went home to his work, and painted at once the mother in "Solomon," transferring to his picture the agony he had seen in life.

In original letters to and from Dr. Isaac Watts, Sir Edward Walpole, and others, in the *Gentleman's Magazine*, 1816, the adornment of Burleigh House is alluded to. Cheron and Laguerre were employed on different apartments. At their arrival, Cheron opened his chest of drawings after the life, such as Academy figures, draperies, &c., and Lord Exeter, observing that Laguerre produced nothing of this kind, asked him where was his box of drawings, Laguerre, pointing to his head, answered, "I carry them all here."

Haydon, in his lectures on painting and design, alludes to the controverted subject as to whether the Greeks dissected. "No," says John Bell, "they did not dissect, because the gymnasium was open to them;" "No," says Sir Anthony Carlisle, "they did not dissect, because their figures were all in repose." "No," says Payne Knight, "they did not dissect, because they never obtained anatomy." "No," say the most eminent scholars, "they did not dissect, because there is no allusion to art and anatomy in their medical literature." "No," say all, "they could not have dissected, because—first, the body was held in sacred awe; secondly, there were laws against dissection; thirdly, their poets speak of a dead body with religious and delicate feeling."

Hippocrates, however, dissected apes, thereby a certain amount of knowledge of man's anatomy was gained. The Greeks in all probability studied more from the external development or anatomy than from dissections. The gymnasium offered a living school of nature; the sculptors and painters here received their lessons from the wrestlers, boxers, often naked, dancers, &c., exhibiting running, leaping, throwing the quoit, and other games. The study of all these exhibitions culminated in a perfect knowledge of external anatomy, as portrayed in the Elgin marbles.

Pliny, in his long enumeration of excellent artists in every kind, and of masterpieces of art, does not mention one Egyptian. From all that can be gathered of Egyptian art, it does not appear that painting ever flourished in that country, or that other nations were much indebted to Egypt for their knowledge of the art. It was, therefore, in Greece, whether at Corinth, Sicyone, Athens, or in other cities, that painting attained its perfection. It is believed to be of later date than sculpture, because Homer, who often speaks of statues, relievos, and carved works, never mentions any piece of painting or portrait.

Phidias is considered to have been the first who gave the Greeks a taste for the Fine in nature, and taught them to copy it. His works were universally admired, and he, perhaps, is the only one that ever united so much facility with such perfection. His talent lay principally in representing the gods. He did not copy from any visible objects, but formed an idea of true beauty, to which he continually applied himself, and which became his rule and model, and directed his art and execution. Polycletus, in his statue of a Doryphorus, united all the proportions of the human body so happily, that it was called the Rule; and sculptors came from all parts to form in themselves, by studying this statue, a just idea of what they had to do, in order to excel in their art. Lysippus used to say that the Doryphorus of Polycletus served him instead of a master. But the painter Eupompus directed him to a much better and more certain guide, viz., Nature herself. He afterwards studied her solely, and made great improvements from her lessons. The chief point in sculpture, as well as in painting, is to follow and imitate nature. Lysippus and Praxiteles were reckoned to have copied nature best. Demetrius, however, was reproached for confining himself too scrupulously to truth.

Apollodorus, of Athens, who lived in the ninety-third olympiad, discovered the secret of representing to the life, in their greatest beauty, the various objects of nature, not only by the correctness of design, but principally by the perfection of the distribution of shades, lights, &c.

No doubt the earliest efforts of sculpture and painting were rude attempts at imitating nature, long before design or composition was thought of. There are several well-known stories of close imitations of nature. Zeuxis painted grapes so exquisitely, that birds were attracted; Parrhasius, a curtain, that he imposed on Zeuxis; and Appelles a horse so well that horses neighed; and in recent times an artist had in his studio the Elgin horse's head high up over his chimney; in leading a fine blood-horse into the room to paint from, the horse looked up at the Elgin head, and neighed with the greatest delight.

This singular fact of an animal being impressed with a work of art as with the reality of nature, may be confirmed by an anecdote related by Jesse of a dog who had been used to be taken up in his mistress's lap, scratching a full-length portrait of her by Sir Godfrey Kneller, standing on the floor, as if soliciting the usual indulgence; and the same gentleman has mentioned a still more extraordinary fact of a dog of a trainer who was extremely attached to a race-horse at Newmarket. The horse was sent to Russia, but a picture of it was taken before it went, and to the picture of the horse the faithful animal attached itself.

A lively sketch of nature was portrayed by Parrhasius in his representation of the "People or Genius of Athens," which shone with a thousand elegant and surprising beauties. In regard to his Hercules, he said that he had represented him exactly, feature for feature, such as he had often appeared to him in his dreams.

The school of nature should combine the simple and ideal true, which have a surprising effect. The painter must seek all the assistances which history can afford him, as regard manners, habits, and dress. The minutest particulars must be observed, as a cap, helmet, shoe, or slipper. Pliny says that Nealces, having to represent a sea-fight between the Persians and Egyptians by the river Nile, to show the scene of the action, drew an ass drinking upon the banks, and a crocodile watching his opportunity to devour him. Mistakes in the minutest things in nature have been censured by the most celebrated artists. Apelles was blamed for drawing his horses with eye-lashes upon the lower lid, whereas there is no such thing in nature. It is said that when Le Brun was going to paint the battles of Alexander, he sent as far as Aleppo for the exact shape and size of the horses of the country.

In representing the gods, all signs of mortality and decay were studiously avoided,—for instance, a grey beard; this, perhaps, is the reason that in the fine statues of the heathen deities the veins are never marked.

The first who united erudition with painting was Pamphilus. He confined himself to mathematics, and more especially to arithmetic and geometry; maintaining strongly, that without their aid it was impossible to carry painting to its perfection. Protogenes was very exact in his representations, and copied nature with the greatest nicety, and this was blamed as a fault by Apelles. In the Temple of Peace was placed the most valued of all the works of Protogenes, *id est*, the hunter Jalysus with his dogs and game. What was most admired in this piece was the froth at the dog's mouth; the fall of the sponge upon the picture accidentally producing in the most natural manner the froth of the dog.

In more recent times accidental causes have produced successful effects. Sir Joshua Reynolds once put a portrait of a young lady to dry by the fire; some soot fell down and covered all her neck. Sir Joshua snatched up the picture, and, saying it would make a capital half-tint, rubbed the whole into the neck and made a beautiful colour. The vitality ever constant in the works of nature, and perceived by an educated eye, was first exhibited by Aristides, a contemporary of Apelles. He established unerring rules for expressing the soul, that is to say, the inmost workings of the mind. He excelled as well in the strong and vehement, as in the soft and tender passions; but his colouring was harsh and severe. Another of nature's disciples was Arellius, a renowned painter: Pliny says he loved a life to be painting of goddesses, and those were ever drawn by the pattern of his sweethearts whom he courted.

The first painter of his age who threw off the trammels of Byzantine art, and "held, as it were, the mirror up to nature," was Giotto. Then, also, did architecture struggle as it were from the Byzantine into the Gothic forms, "like a mighty plant putting forth its rich foliage and shooting up towards heaven." For the stiff, wooden limbs, long lean fingers, and motionless figures of the Byzantine school, Giotto substituted life, movement, and the *look*, at least, of flexibility. From the beginning of his career he not only deviated from the practice of the older painters, but stood opposed to them. He not only improved, he changed; he placed himself on wholly new ground. He took up those principles which Nicolo Pisano had applied to sculpture, and went to the same sources, to nature, and to those remains of pure antique art which showed him how to look at nature. Even in sculpture a drapery is not estimable, unless its folds are contrived to indicate the *parts* and *articulations* of the *body* it covers.

The first academy of design was established at Florence in 1350, and at the close of the same century sculpture was once more firmly established throughout Italy, and its itinerant sculptors, not unskilful in their art, wandered from thence over Germany, France, and even England, where their works have been traced in the sculptured ornaments of Gothic edifices.

The labours of the fifteenth century in all the elegant arts will ever hold a distinguished place in history. Respecting this age, it has been justly said that modern sculpture attained its culminating point. A character of truth and simplicity, faithful imitation of nature, and just expression, visibly begin from the time of Nicolo Pisano, whose own style was remarkable for sweetness and absence of pretension. In the succeeding century the style becomes more elevated but not less true; the execution at the same time is bold and felicitous, and the imitation is faithful to nature.

Anatomy is indispensable to the sculptor and painter. Leonardo da Vinci exhibited great anatomical knowledge in his model of the grand statue of Francesco Sforza; this was considered a masterpiece, although never finished. Some years afterwards, when Milan was invaded by the French, it was used as a target by the Gascon bowmen, and completely destroyed. The profound anatomical studies which Leonardo made for this work still exist. Dr. Hunter described his anatomical drawings as the most wonderful things of the kind, for accuracy and beauty, that he ever beheld. In the Royal library at Windsor there are three volumes of MSS. and drawings, containing a vast variety of subjects,—portraits, heads, groups, and single figures; fine anatomical studies of horses; a battle of elephants, full of spirit; beautiful and accurate drawings of plants and rocks, to be introduced into his pictures.

Michelangelo in designing, avoided all superfluity of ornament, and studied philosophically the perfect constitution and disposition of natural bodies; he restricted himself to the simple reality of his thought. Michelangelo had many rivals; but his greatest enemy was a stern inflexible temper, which caused him much trouble, and even personal injury, his nose being flattened to his face by Torregiano, a fellow pupil. In the representation of the "Last Judgment," on the wall of the upper end of the Sistine Chapel, in the Vatican at Rome, he has placed in the centre the figure of the Messiah pronouncing the sentence of condemnation,—"Depart from me, ye accursed, into everlasting fire," the figure, expression, and attitude, are all vulgar; "there are profaneness and vulgarity both in representing the merciful Redeemer of mankind, even when he comes to judgment, as inspired merely by wrath and vengeance, as a thickset athleta, who, with a gesture of sullen anger, is about to punish the wicked with his fist. Michelangelo devoted his whole attention to the definition of form, and the expression of life and power through action and movement; he regarded the illusive effects of painting as meretricious and beneath his notice, and despised oil painting as a style for women and children. He, however, did not improve upon Nature, and

always exhibited her vulgarly in her wildest movements; wonderful as his talents were, they were misapplied, through not possessing either taste or sentiment, as evinced in his picture of the "Last Judgment."

Titian was pre-eminently the painter of nature; but to him nature was clothed in a perpetual garb of beauty, or, rather, to him nature and beauty were one. Andrea Vesalio, who has been called the father of anatomical science, the particular friend of Titian, was his instructor in anatomy. He was falsely accused of putting a man to death for anatomical purposes, and condemned. We are told that with an instinctive feeling, prophetic of his future excellence as a colourist, he used the expressed juice of certain flowers to paint a figure of a Madonna. It was Bartolomeo's opinion that every object should be painted, if possible, from nature; and for the better study and arrangement of the drapery, he invented those wooden figures with joints, called lay figures, which are now to be found in the studio of every painter, and which have been of incalculable service in art. Rubens had recourse to living models for those hunting-pieces, and other representations of savage animals, which have never been surpassed. He painted several lion and tiger hunts, and similar works, entirely with his own hand, which he did not permit to be seen until they were completed. He painted everything from nature, and painted horses often,—he had some of the finest breed in his stables. It has been suggested that Rubens might have soared higher if, instead of copying the corrupt and degenerate taste of the Italians, he had chosen to form himself on the model of his native Netherlands,—on Van Eyck, for example, so rich in art, yet true to nature, with others equal to him in genius.

From 1540 to 1590 the Venetians were the only painters worthy of the name in Italy. This arose from the elementary principle early infused into the Venetian artists,—the principle of looking to Nature, and imitating her, instead of imitating others and one another. Thus, as every man who looks to Nature looks at her through his own eyes, a certain degree of individuality was retained even in the decline of the art.

Claude was a diligent observer of nature. Rome, and its environs, the banks of the Tiber, and the broad Campagna, supplied his imagination with the best food, and his pencil with inexhaustible materials. He was accustomed to spend whole days in the open air, not only studying nature in her permanent aspects, but making memorandums of every accidental and fleeting effect which presented itself to his observation; he entered minutely into detail, and made drawings of trees, shrubs, and herbage, marking all their peculiarities of shape, growth, and foliage. Rembrandt was another of nature's scholars, in drawing any object which caught his notice. Nature was his preceptress, and his academy was his father's mill. There he found those unique effects of light and shadow which distinguish his pictures from all others. Descamps says that he owed his genius to nature and instinct alone.

Bernard Lamy, in 1702, says, "Could a painter be excellent if he knew not a man? I mean the outside of a human body, and what may appear on that outside; the veins, the muscles, and the tendons; he ought, therefore, to be perfectly well acquainted with the anatomy of the outside of a human body. Those who apply themselves to the painting of beasts ought to make the same inquiry. To paint a horse well it is convenient to know the anatomy and most esteemed proportion of his parts."

Gainsborough, also, among others, had a habit of continually remarking to those who happened to be about him, whatever peculiarity of countenance, whatever accidental combination of figure, or happy effects of light and shadow, occurred in prospects, in the sky, in walking the streets, or in company. If in his walks he found a character that he liked, and whose attendance was to be obtained, he ordered him to his house; and from the fields he brought into his painting-room stumps of trees, weeds, and animals of various kinds; and designed them, not from memory, but immediately from the objects. He even formed a kind of model of landscapes on his table, composed of broken stones, dried herbs, and pieces of looking-glass, which were magnified and improved into rocks, trees, and water.

Canova's profession constantly engaged his thoughts. He sought the living schools of nature in the public amusements of spectacles and theatres. Whatever was interesting in expression or striking in attitude occurred on those occasions was retained as an unerring precept in guiding his future practice. Even in walking the streets he used to stop before the workshop of some artisan to remark the forceful, yet easy, positions into which the body was thrown in different occupations, admire the well-formed trunk or sinewy limbs of a porter in powerful exertion at a wharf. Canova was wont to remark, "Our thoughts may be expressed in various ways. One speaks; another writes. I also have my peculiar mode; in my chisel I find words and letters." To retain with precision appearances thus hastily caught, for future study, requires a quick and energetic apprehension of material beauty, and a ready fidelity of hand in describing its contours. And although an artist cannot at all times and in all places paint or draw, yet the mind can prepare itself by laying up proper materials at all times and in all places.

The secret of the sculptor's art is not to be found in books and public lectures, but in the science of anatomy. Correggio studied anatomy under Lombardi, a famous physician of his time. To attain fidelity, Canova is said to have made repeated studies from nature, so much so that in sculpturing his Theseus he pressed a living horse to the ground by external violence.

In the remains of the later and better eras of Grecian taste, the Graces are represented without drapery, thus indicating the true source of grace in the absence of art, and in the ingenuousness of nature; not

> "Like painters, thus unskill'd to trace,
> The naked nature and the living grace,
> With gold and jewels cover ev'ry part,
> And hide with ornaments their want of art."

The union of material beauty with intellectual elevation constitutes the true ideal of Grecian sculpture. In the masterpieces of antiquity, the scattered perfections of living nature are combined in one harmonious whole. Works of merit are produced by a laborious and accurate investigation of nature, upon the principles observed by the Greeks—first, to make themselves thoroughly acquainted with the common works of nature, and then, by selecting and combining, to form compositions according to their own elevated conceptions.

One of the principal objects of the present paper is to distinguish the excellence of the fine arts, from the *abuse* which sculptors and painters have made of it. Sculptors and painters have often had great disputes among themselves upon the pre-eminence of their several professions; the first founding their preference upon the duration of their works, and the latter opposing them with the effects of the mixture and vivacity of colours. It is painful to contemplate the perishable nature of the productions of the painter's genius.

Poetical works and MSS. are not liable to the many accidents of fire and water, the weather, or damp walls, to which paintings are particularly subject. Apelles would not draw any pieces but what were portable and removable; and Pliny says that Protogenes used to work in a little cell in his garden, at a distance from his house, that his works might be exempt from such calamities. Leonardo's picture of the "Last Supper of Christ and his Disciples" was so defaced by time and the weather that much of it has been repainted.

Painting is said to have been too soon abandoned to the caprice of private patronage and judgment, and could never compete with sculpture, whose labours were publicly dedicated to the renown of the good, the learned, and the brave. One hundred and sixty-nine sculptors are mentioned by Pausanias, while he has only recorded the names of fifteen painters; and after three centuries of spoliation he found in Greece 3,000 statues, not one of them a copy, while he describes only 131 paintings.

In treating of the living schools of nature, which consist in representing what is agreeable to truth, and opposed to the vicious and blameable licences of painters in general, too much attention cannot be directed to the inexcusable liberties they have taken; such as uniting things that are repugnant and contradictory to each other, entirely inconsistent and incompatible, coupling wild and tame creatures together:—

> "Painters and poets our indulgence claim,
> Their daring equal, and their art the same,
> I own th' indulgence—such I give and take;
> But not through nature's sacred rules to break,
> Monstrous to mix the cruel and the kind,
> Serpents with birds, and lambs with tigers join'd."
> *Horace.*

Also introducing in the same picture persons who never existed together, or jumbling and confounding the fashions of different nations. Learned men and judges require a greater exactness of conformity with truth. Longinus says that the excellency of a painter consists in representing what is agreeable to truth. Vitruvius's opinion is that no painting ought to be approved of that doth not agree with it. Some have carried the matter so far as to assert that even beauty, which is so essential a part in a picture, ought to give place to probability and truth. This Philostratus illustrates by the horses of Amphiaraus, which appeared covered over with dust and sweat. They would have been much finer, saith he, without this dust and sweat, but not so agreeable to truth. Purity and simplicity of design disappear in proportion as grandeur and novelty are pursued. Every deviation from nature and from simplicity is exaggerated in the sculpture of the seventeenth century, the grandeur of preceding art was lost in the prettinesses of affectation, and nobleness and strength in forced attitude and unideal expression.

A great part of every artist's life must be employed in collecting materials for the exercise of genius. Invention is little more than a new combination of those images which have been previously gathered and deposited in the memory.

> "Those rules of old discover'd, not devised,
> Are nature still, but nature methodised;
> Nature, like liberty, is but restrain'd
> By the same laws which first herself ordain'd."

He who has laid up no materials can produce no combinations. An artist who has his mind filled with ideas, and his hand made expert with practice, works with ease and readiness. Excellence is attained by laborious efforts. "The steep where Fame's proud temple shines afar" is not to be gained at a bound. All artists have to study the antique as well as nature, but the living school must be sought in the latter, which makes no summer of another's green, and robs no old to dress her beauty new.

Finally, the establishment of a philosophical school of painting would be a great boon to society, and institutions generally. The students should be well instructed in anatomy, mathematics, geometry, and perspective, and taught to improve upon and perfect Nature, and not to vulgarise and distort her. Truthful painting would immortalise history, and tend to facilitate education; religion might be treated in a more reverential manner, and our cathedrals, churches, and art galleries rendered more instructive to the people by portraying the memorable events in Scripture history in a simple and truthful manner, instead of creating vulgar sensational paintings of popes, prostitutes, and pagan deities.

True religion abhors all licentious sculptures and paintings.

> "Woe to the man! whose vicious pencil taught
> In grateful tints to urge a guilty thought:
> Our fathers' homes ne'er own'd these noxious arts;
> No crimes were painted on their walls or hearts."

THE ENGINEERS AND THEIR FRIENDS.

If the engineering profession is the one which, as we think may be fairly said, has done the greatest practical work of any profession in the present century, it has also been exceptionally fortunate in receiving cordial recognition of its labours. At the annual dinner of the Institution of Civil Engineers last week the laudatory tone of the speeches, coming from highly influential quarters, was, even with due allowance for post-prandial conditions, somewhat remarkable. The two most eminent Liberal statesmen among Lords and Commons respectively vied with each other in their description of the triumphs of the profession, and the exceeding value of its achievements; the Minister for the United States told how in the country which he represented 80,000 miles of railway had in half a century been constructed at a cost equal to our national debt; the Prince Imperial, responding for the visitors, reminded the meeting that the late Emperor of the French had been a member of the Institution, and taken part in its debates; and Mr. Lowe, in half apologising for the somewhat extravagant terms in which he had on one occasion lauded the engineers, practically repeated his offering of incense on their altar. Mr. Lowe's speech is the only one with which we have the slightest fault to find. He has been pleased to take the engineers under the wing of his somewhat petulant and capricious patronage, and to attri-

bute to them every virtue under heaven, probably not so entirely from admiration for them as from dislike of everything that is poetic or sentimental, of which they are supposed (perhaps with rather too good reason) to be the opposite pole. In his ardour Mr. Lowe forgot, in fact, that there are even any other scientific men in the world than engineers. He spoke, and spoke well, and with point, of the glorious mission of making nature subservient to the benefit of mankind instead of engaging in fratricidal contests,—of the "holier warfare" which we carry on against the powers of nature in wringing from them that which they never refuse if properly pressed; but his assumption that the engineering profession first taught us this is so absolutely absurd that the more thoughtful and moderate among its members might well desire to be saved from their too enthusiastic friend. For our own part, we had really imagined that there had been such a thing as literature,—that the invention of printing, among others, had played a part in substituting peaceful for warlike honours;* we had imagined that there had been astronomers, geologists, physicists, students of natural forces, who had suggested to us a higher aim than fighting; we might even be pardoned (except by Mr. Lowe) for supposing that the type of thing called "art" had not been without its influence in ameliorating human nature, and that even that branch of it known as architecture was of some importance in rendering life pleasanter and happier. However, Mr. Lowe says the engineers have done it all. If so, they doubtless deserve all that even his eloquence can say for them.

Coming down from hyperbole to fact, however, the great and deserved influence and credit enjoyed by the engineering profession in the present day is partly to be explained from a point of view which some, both of the speeches and the speakers at their dinner last week, suggest. If engineering does not exactly, in Bacon's phrase, "come home to men's business and bosoms," it at least fulfils the first half of the phrase,—it comes home to the business feelings of most men in some way or other. In saying so we are not for a moment overlooking the great abstract interest, in a scientific and even to some extent also in a poetic sense, of the problems with which engineering deals, and the methods by which they are surmounted: indeed, so far from overlooking these, we have always urged the great interest from even a general point of view, of engineering work, and have in some special cases done all in our power to defend its professors against the far too sweeping and often unreasonable charges made against them of spoiling the picturesque of nature with their works. Indeed, we are distinctly of opinion that persons who talk thus of engineering, and regard engineering works as mere nuisances, perhaps necessary but always odious, show themselves to be, *ipso facto*, a narrow-minded and imperfectly-educated set of people. But in general the interest in the profession on the part of outsiders is a practical one, founded on their commercial sense. The relevancy of this way of putting it in regard to the speech of the noble Earl at the head of "her Majesty's Opposition" is probably well understood by many of our readers, in spite of Earl Granville's entirely light and sportive manner of dealing with the subject *en amateur* at the dinner. But Mr. Gladstone made no scruple of bringing his practical motives ostentatiously to the front. Referring incidentally to the Channel Tunnel project, he asked, not unreasonably, why such a great undertaking had not been made the subject of experiment on a smaller scale in tunnelling under some of the large rivers and estuaries of England, and thus forming direct routes of communication of this kind the possibility of which, both in an engineering and a financial point of view, would be much less doubtful, and the practical benefit much more certain, immediate, and tangible. Coming more completely to the point, Mr. Gladstone put himself forward as a suppliant to the profession, as a person connected by interest and property with North Wales, and said, "We want you to connect us with Liverpool as our capital. North Wales has got minerals in abundance, but it does not raise food enough for its own population. We are exporting stone, slate, iron, coal, clay, and articles of various descriptions. Such is our capacity for exporting, that if you only come there you may in time export the whole of North Wales. Do not compel us to send these things round twenty or thirty miles, and you will establish a claim to be remembered in the hearts of the Welsh people, who, I assure you, are most grateful." And he further observed that 5,000,000*l.* had been expended in connecting the docks of Birkenhead with Liverpool (by a circuitous route crossing the Mersey a good many miles higher up); but if there were a tunnel, the docks of Birkenhead would be the docks of Liverpool. As to this particular scheme, plans have been made for it more than once, we believe, but we imagine engineers have not been able to persuade capitalists of the probable success of the undertaking as an engineering scheme, or it would surely have been done before now: its financial success would not admit of a doubt; indeed, there is perhaps hardly any one engineering scheme which could be proposed in England at this moment which would have, in proportion to the extent of the work done, so large an influence over business and value both of land and of products. In that respect it is a very good instance of what it is which makes the engineering profession of such peculiar interest, among scientific professions, to the average practical Englishman.

The scale on which the engineers' entertainment is given, and the publicity which attaches to it, are not without suggestion to the architectural profession. The Institute of Architects can at present hardly feel strong enough to do that kind of thing on the same scale, and in such a way as to compel so much public attention. One reason is, that the engineers are unquestionably a much wealthier and better-paid profession than the architectural, which, perhaps, cannot be helped; but another difference is, that they obviously pull together much more closely and generally than the architects do; and that we can help, or some of us can. The Institution of Civil Engineers is, in short, much more really a representative body of that profession than the other Institute in Conduit-street is of the architects: which is the fault, not of the Institute of Architects, which has (lately especially) been doing all that it well could do to improve and render complete its organisation, but of the large proportion of the profession who stand aloof from indifference, party spirit, and want of *esprit de corps*. If the architects would combine more heartily to strengthen the hands of the central organisation, they might have the satisfaction and advantage of seeing the profession able to take its stand as well before the public on public occasions as the Institution of Civil Engineers unquestionably does.

There is, however, another kind of public interest apart from dinner-giving and speech-making, which architecture certainly does seem to excite, though it is usually of a less demonstrative kind. The amount of interest felt in architecture as a matter of historic study and artistic interest, among the less merely practical and more cultivated section of English people, is probably much larger and more extended than is generally supposed. We were led to this reflection by an occasion of recent interest, the funeral of Sir Gilbert Scott last week. The crowd which this sad ceremonial drew, and the evidence of respect and interest in the dress and demeanour of so many persons, obviously belonging to the upper section of society, may have been a surprise even to those who knew how large was the late architect's connexion. And we may perhaps be pardoned for the reflection, as a set-off to Mr. Lowe's rather ill-judged adulation of his pet profession, that after all the hard things that Parliament and newspapers are so fond of venting (with more ill-nature than knowledge) against architects, it is perfectly certain that not a single engineer now exists in England whose death would produce the effect on the public mind which that of Scott did, or whose funeral obsequies would draw such a retinue.

* In accordance with Quevedo's celebrated *mot*, that "ever since so much lead had been wanted for type, there had been much less to spare for bullets."

"Bricklayers' Technical Education Classes."—At the committee meeting of these classes, held at 5, Great Queen-street, Westminster, on Monday evening last, Mr. Frank E. Thicke in the chair, it was resolved that the second annual examination should be held on the 30th inst., and that a fortnight afterwards the President of the Royal Institute of British Architects should be again requested to distribute the prizes. Amongst recent contributions to the classes is that of the Fishmongers' Company, 21*l.*

ON OBELISKS: THEIR PURPOSE, PROPORTIONS, MATERIAL, AND POSITION.*

THE generous patriotism of Mr. Erasmus Wilson, and the skill of Mr. John Dixon, C.E., have triumphed over the half a century of England's indifference, and now the monolith of Alexandria is in the Thames only awaiting, after much discussion and difference of opinion as to its proper site, to be erected in the very centre of our metropolis as an evidence of the grand ideas of the ancient Egyptians in regard to monumental art. Considering how intimately obelisks are connected with our pursuit, I have felt that it would hardly become our Institute if such an historical fact were unnoticed in our annals, and if some attempt, however brief, were not made by us to get together the leading points connected with the general subject of obelisks, their purpose, proportions, material, and position, treated from a strictly architectural point of view, without encumbering ourselves with the questions relating to precise dates, or intricate calculations of dynasties, or to hieroglyphics.

They are the most simple monuments of Egyptian architecture, and among the most interesting that antiquity has transmitted to us, from the remoteness of their origin and the doubt in which we still are as to the period when first set up. The oldest, which now remains to us, is still standing at Heliopolis, near Cairo,—the On Ramses or Beth-Shemesh of the Hebrew Scriptures. Abraham was unborn, the Pentateuch of Moses was not written, when the inhabitant of Heliopolis adored his gods in the Temple of the Sun, and read upon the obelisk, still in its place, the name of Harmachis and that of King Osirtesen, who then reigned and reared it, and to whom Mariette Bey assigns the date of 2851 years before Christ. He was a powerful Pharaoh, whom eleven royal dynasties had preceded, and who was followed by twelve more, when Alexander the Great, about 380 B.C., came to consult the oracle of Ammon, and to found at Alexandria, the capital of his future Egyptian empire. They are supposed to have been principally dedicated to the sun-god Horus, of whom the hawk was a symbol, on account of the elevation to which this bird extended his flight, and of the faculty, which the ancients considered it to have, of looking at the sun with a steady gaze.

Obelisks have been, from the earliest periods of antiquity, regarded as remarkable monuments of the skill and perseverance of remote ages. They must ever be considered as valuable records of the ancient history of the Egyptians and of the skill of those periods; monumental evidences of their sovereigns and of their warlike exploits. Extracted with vast labour from their quarries as monoliths, conveyed six or seven hundred miles down the Nile, and erected with difficulty in front of their temples, they are emblems of the perseverance and love of glory of the Egyptians or their rulers. Overthrown by earthquakes or the violence of conquerors, buried in the sands, or encumbered by the enormous blocks of stone piled up to great heights, the city of Thebes, even in its dilapidated state at the present day, is the marvel of the traveller for the extent and dimensions of its ruins. The ancient city, divided in its middle by the Nile, as London is by the Thames, presents two gigantic towns with remains of immense temples, which in all their accompaniments and parts are colossal, whether in the dromoi or avenues leading up to their entrance portals, their statues, their courts, and colonnades, in the hypostyle halls, and last, though not least, as objects of wonder, in their stupendous obelisks. These were lofty pillars of granite set up by the kings in front of their temples, to commemorate their victories and record their various names and titles. I am not aware that they have as yet been found in front of tombs, as suggested by Mr. Basil Henry Cooper, in his learned paper recently read before the Society of Arts. They were monoliths consisting of a square shaft gradually diminishing towards its summit up to about nine diameters high, where the faces suddenly receded up to a point, their upper portion being called a pyramidion, from the similarity of its general form to that of a pyramid, though much more rapidly sloping. I have said receding up to a

* From a paper by Professor Donaldson, past-president of the Royal Institute of British Architects, read before the Institute on Monday evening last, as elsewhere mentioned.

point, but the fact is, that there is authority for assuming that sometimes the pyramidion had a seated figure on its top.

The Egyptians set great value upon the size of their monoliths, and if a large block were extracted from a quarry not quite corresponding in all its sides, whether as to size or form, they would without scruple use it for their immediate purpose, or shape it as near as possible to the object they had in view, without diminishing its size. The consequence is that many of their obelisks, pedestals, and sarcophagi even, where one would have supposed the most scrupulous attention to uniformity should have existed, are irregular in shape. In like manner some of the huge blocks intended for obelisks came out of the quarries mis-shapen at the smaller end, and to remedy this defect they covered it with a metal capping of the required shape rather than reduce its length by cutting off the rugged portion.

The summit of the Parisian obelisk was irregular in shape, and left quite rough. There was at the bottom of the pyramidion a channel and fillet, then a surface setting back, and the granite presenting an uneven face. It was in the same state previously to its being lowered by the French. There must have been something to cover this unsightly appearance. Our obelisk has an inscription, translated by M. Chabas from the transcript of Burton's "Excerpta Hieroglyphica," pl. 51. In it is the following line:—

"He erected two very great obelisks capped with gold."

Mariette Bay mentions that round the lowest part of the obelisk of Hatasou runs an inscription in horizontal lines covering the whole of its four sides, which states that the summit of the obelisk was covered over with pure gold, taken from the chiefs of the nation; and he observes that, unless this expression simply implies an apex overlaid with a casing of gilded copper, as the top of the obelisk must have been, this inscription possibly refers to the sphere of gold (?) which is represented on certain bas-reliefs at Sakkarah. He further says: "The obelisk was no doubt gilded from top to bottom." In examining closely, one may notice that the hieroglyphs were carefully polished, and, moreover, that the plain surface of the monument was left comparatively rugged, from which it may be inferred that it had been covered with a coating of white stucco, as so many Egyptian monuments were, which alone received this costly embellishment of gilding, the hieroglyphs themselves retaining the original colour and actual surface of granite. Dr. Birch mentions that the tombs in the Libyan range behind Gournah and El-Assasif "are full of scenes of the reign of Thothmes. Two great obelisks of 188 cubits high, with gilded tops, are recorded in these sepulchres." Mariette Bey also says that "the inscription further states that the two granite obelisks of Heliopolis were actually completed and erected in seven months from the very beginning, when first extracted from the quarry in the mountain." This use of bronze caps seems to justify the practice in modern times, as the ancient Romans possibly adopted in certain cases the same practice; and this has been handed down traditionally to our period.

When the pyramidion was perfect in its shape, and required no artificial capping, it was sculptured in sunk relief, with a representation, as on the Alnwick obelisk, of the god to whom the monument was dedicated, before whom was the king kneeling and presenting his offering, or by a group consisting principally of a sphinx on a pedestal in front of a deity seated on a throne. A very fine example of the apex of an obelisk, at Karnak, is to be seen in the full-sized cast of one side of a pyramidion, on the landing at the top of the staircase leading to the Egyptian Room, in the upper gallery of the British Museum. Imposing from its size and execution, it shows the bold depth of the hieroglyphs and rounded surface of the sunk character, polished, as Mr. Erasmus Wilson suggests, like the delicate carving of a gem.

The next division of our subject relates to the shaft of the obelisk. The sides were not always equal in their width, varying a few inches. In the exceptional instance of the obelisk of Biggeg or Crocodilopolis in the Fayoum, called by Mr. W. R. Cooper, in his able book on this subject, an obeliscoid monolith, the faces are 6 ft. 9 in. broad, the sides only 4 ft. thick. Our London obelisk is at the base 7 ft. 10·3 in. by 7 ft. 8 in.; at the summit, 5 ft. 1·3 in. by 4 ft. 10·25 in.,—an inappreciable difference. The four sides or faces of obelisks were usually square, but occasionally they are convex; a fact proving the nice perception for effect, which prevailed in the minds of the ancient Egyptians, as thus the light was much softer upon the surface, the shade less crude, and the angles less cutting. Whether there is in any an entasis in the upright line has not yet been precisely ascertained, but perhaps this fact may now be set at rest in respect of our Alexandrian obelisk. Usually obelisks had one, two, or three vertical lines of hieroglyphs. Originally it may be assumed that only one central series was contemplated by the original Pharaoh; but it appears that his son, successor, or successors, added a line on each side; and it is remarkable that earlier hieroglyphs were much deeper cut than the more recent ones. Occasionally some of the hieroglyphs have been altered or erased, more or less deeply cut, and the names of other gods or Pharaohs have been substituted, like the inscriptions upon some of the Roman triumphal arches. I just now noticed the mention made by Mariette Bey of the faces of obelisks having been gilt, the hieroglyphs themselves retaining their original colour and actual surface of granite. It is not impossible that occasionally the hollows of the hieroglyphs may have been filled in with some coloured substance, in like manner as we see on the frescoes the hieroglyphs painted in different colours, like those preserved in the Egyptian Hall of the British Museum. These inscriptions are generally trivial and meaningless, recording little more than the names and patronymics of the king, his relationship to the gods, and list of his virtues, and of the peoples he may have subdued in battle; sometimes with maxims and blessings of the gods.

We have now to consider the dies, pedestals, and steps upon which the obelisks were anciently raised. On this subject we have very little reliable information, for the bottom portions of those now left standing in Egypt are encumbered and surrounded by huge fallen blocks of stone, preventing their full size from being ascertained; and on those transported to Constantinople, or Rome, or elsewhere, from their original sites, no reliance can be placed. Our late friend, Mr. Joseph Bonomi, may be considered a great veteran authority on the subject of obelisks, as he made it a special object of study when in Egypt and in Rome; and there is a very complete enumeration and analysis of existing monoliths by him in vol. i. of the Second Series of the Transactions of the Royal Society of Literature, 1843, and a description of the Alnwick Obelisk, p. 170 of the same volume. By his liberality the Institute possesses two fine models of obelisks at Karnac and Luxor. In a private letter to myself he says that he had seen the upper part of the block of granite on which that of Karnak stands—"It is cubical; on two sides the surface is vertical, on the two other sides the surface inclines very much, but the exact angle I do not know, nor do I know how high the block is, for the lower part is encumbered by large masses of stone." The model was made for the late Duke of Northumberland (Algernon Percy). This divergence of the faces of the die is a remarkable confirmation of my previous remark as to the irregularities existing in large blocks of granite, from the desire of the Egyptians to retain, as far as possible, the cubical mass entire. Mr. Bonomi concludes his note by stating that he had measured and drawn the base of the obelisk at Luxor; that it was composed of several pieces of granite, and on the north and south sides had four statues of monkeys cut out of two or three blocks of granite in *alto relievo*. On the east and west sides are sculptured in Egyptian *cavo relievo* (hieroglyphs) figures of Nilus bringing in the productions of the country. This extraordinary mode of embellishing the pedestals of obelisks seems almost incredible, were it not for this instance, which is illustrated and detailed by M. Le Bas, the engineer, who transported the Luxor obelisk to Paris, where, however, the original pedestal forms no part of the present composition in the Place de la Concorde. This obelisk, as described by M. Le Bas, deserves our special notice, on account of its individual peculiarities.

Ramses II., whose reign began 1388 B.C., extracted the monoliths from the quarries of Syene, and transported them to Thebes, and partly incised the hieroglyphs of the middle column. His brother and successor, Sesostris, whose reign began 1328 B.C., completed the inscriptions. It thus appears that the hieroglyphs were executed before the erection; for Ramses II. set up the obelisks 1388 B.C., and had his name engraved on the base as an historical record. The total height of the shaft is 75 ft., at its base, 8 ft. wide, with an average of 5 ft. in width. In its elevation the opposite faces in their height have a different curvature,—on the one side being convex and the other concave, to the extent of about a couple of inches, an imperceptible difference from a straight line; but it is remarkable that the two obelisks coincide in this detail. I imagine that the first block must have been irregularly marked out and worked, and the second one compelled to follow the faulty line in the quarry. The pedestal of each obelisk is composed of two distinct parts, its base and its die. The base or plinth resting on the pavement consists of three horizontal blocks of three courses of sandstone; the central die is a granite monolith, supporting the weight of the obelisk, and has on two of its sides four projecting monkeys in high relief, the other sides being plain, with the exception of incised hieroglyphs. One side of the die with four of the monkey figures was a slab-facing of the die, and it consequently did not contribute to its solidity. The entire monument was erected on a grey stone paving, and was sunk into the paving-blocks a few inches. Such is the very remarkable construction and decoration of these, I presume, very exceptional instances. As to the pedestals of the obelisks, we may infer that in other cases the monoliths rested on one or more steps, and that they did not rise at once without any superstructure or plinth from the level of the pavement. Sometimes bronze balls or other supports at the angles raised the monolith a few inches above the slab or block beneath. Mr. Dixon discovered an inscription engraved in Greek and Latin on the bronze crabs supporting the standing obelisk of Alexandria, having the words "Anno VIII. Cæsaris, Barbarus Præfectus Ægypti posuit; Architectore Pontio" (see Erasmus Wilson's "Cleopatra's Needle," p. 11). This explains the reason why some of the obelisks at Rome have the like angular supports.

The erections on the banks of the Nile were constructed of the sand and limestones extracted from the quarries near. The pink granite was only used for the obelisks, statues, sarcophagi, casings of the pyramids, sanctuaries in temples, and linings of some special tombs, and for other precious or sacred purposes. The position of the quarries of Syene must have been of the utmost importance in facilitating the application of that fine material. Situated below the rapids,—or, as they are generally called, the cataracts,—when once the masses were extracted from their beds, no obstruction presented itself in their course down the river to their destination, whether to Memphis, Heliopolis, or the Delta. Mr. W. R. Cooper states that twenty-seven of the forty-two obelisks now known were from Syene, and they are doubtless the largest. An unextracted block still remains at Syene, 95 ft. long by a diameter of 11 ft., with the quarrymen's marks upon it. Sir Gardner Wilkinson mentions that the final operation of extraction, when three sides of a mass had been worked round, was by cutting a groove or channel about 2 in. in depth, and kindling a fire along its whole length. When the stone was intensely heated, cold water was poured into the groove, and the block detached itself with a clear fracture. Wedges of wood were also inserted, saturated with water, then exposed to heat, and the expansion rent the mass asunder. Thus detached, it was drawn down to the river, where it was encased, or upon a galley or raft floated down the Nile to near the spot where it was ultimately to be set up. From the river-bank it was hauled to the propylæ in front of which it was to be erected. We have no hieroglyphs or painting on the walls of the pyla or tombs showing how the obelisks were raised and placed in their final position. That the erection of the monolith on its pedestal was a most critical operation is sufficiently obvious, and its difficulty is illustrated by an anecdote related by Pliny:—Ramses erected an obelisk 140 cubits high and of prodigious thickness. It is said 120,000 men were employed on the work. To ensure the safety of the operation by the extremest skill of the architect, he had his own son fastened to the summit while it was raised. On a small illustration before you there is represented a mural painting in a hypogee, or underground tomb, at Gournah, with three men polishing a column of no great size; but that may be conventional. The column rests on blocks; the

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polishers are astride, or seated on the column, with rubbers rubbing the surface. Another, from the same tomb, shows a colossal upright figure surrounded by scaffold-poles; five artisans are chiselling, rubbing, and polishing the surface. Another small illustration represents a mason carving a many-coloured sphinx; he is chiselling the paw of the animal; he has a wooden mallet in his right hand, and in his left a steel chisel, unmistakably indicated by the deep blue colour of the tool. We know not whether emery or what other powder was used by the polisher.

I have not yet alluded to the masons' and carvers' operations of cutting the hard materials used in their obelisks, statues, sarcophagi, &c., such as the pink and black granite, black marble, basalt, &c. Hardly any iron tools have been preserved among the relics of the tombs. With what materials did the ancient Egyptians carve with such refined delicacy and exquisite sharpness the mouth, eyes, and other features of their statues, or what Mr. Erasmus Wilson calls the gem-like surfaces of the *in cavo relievo* of the hieroglyphs? I do not know that we are possessed of any process by which brass may be sufficiently hardened for the purpose, and we have not specimens enough which have survived the oxidation of the iron to satisfy us on the point as to that material. Could they prepare and soften the surface by some chemical application on the harder elements of their hard stones? No one as yet has been able to inform us; but the secret mystery of the execution of the Egyptian sculpture still evokes our wonder and admiration of their skill. Our own granite merchants have achieved wonders, by means of steam machinery, in working out by rotary motion the shafts and bases and caps of certain columns and circular pedestals; but the refined sharpness of the lips, eyebrows, and other delicate features of the Egyptian heads, as they appear even upon the lids of the sarcophagi or the busts in the British Museum, has yet to be attained.

I have before observed that the Egyptians were less careful as regards any fixed proportions of their monoliths, but were more anxious to use up the blocks as they came from the quarry, whether as to the height or uniformity of shape. The sides of an obelisk rarely corresponded exactly to the breadth of its face, or the height of the shaft to any fixed relation with the width at the base; and there is a like disregard in the height of the pyramidion, which, however, was high-peaked, and never stunted. Nevertheless, we may generally assume that the shaft varied from eight to nine diameters high up to the pyramidion, which was from sixty to seventy-five hundreds of the breadth at the base. Too few of the pedestals, plinths, or steps have been ascertained or measured to afford any general law of proportion, whether as to their breadth or height.

The positions of obelisks were before the gigantic pylons, which formed the entrance gateways to the forecourts of their temples, and they were, I think, without exception, always in pairs. At Karnak the situation of the two lofty ones erected by Queen Hatasou (one of which still stands, and is, according to Mariette Bey, 108 ft. 6 in. high, the loftiest one known) was between two lofty pylons only 40 ft. or 50 ft. apart! Those in front of the outer pylon are not so distant in advance of it. Consequently the Egyptians disregarded the immediate proximity of a lofty wall backing them up, and none are known situate in wide open spaces. I have grouped together in a drawing the various objects which occupied the approaches to the temples and formed an assemblage that was calculated to impress with awe the dignity of the fane of their god. The sacred way led up from the river flanked, on each side with variously headed sphinxes. At Karnak the dromos is one mile and one-third long, with a line of sphinxes on each side. Approaching nearer, the worshipper finds two obelisks on the right and left, not necessarily of the same height. At Luxor one is 7 ft. or 8 ft. higher than the other, and to diminish the appearance of disparity in size, the shorter one is raised on a lofty pedestal and brought some feet in advance of its companion. Attached to the face of the pylon are six sedent gigantic statues of kings, majestic as to size, and seated in the hieratic posture. Lofty coloured poles, similar to the standards at Venice, are inserted in sinkings chased into the walls, surmounted with the expanded banners of the kings or heraldic bearings of the temple floating in the wind. The pylon itself, perhaps 200 ft. wide and 100 ft. high, forms the back-ground of the whole, crowned by its cavetto cornice, and its surface covered with coloured sculptures of the victorious Ramses, in his chariot, with upraised arm slaying his enemies, trampling them under his horses' hoofs, and also dispersing them in flight,—a grand scene of one of the dramas in the reign of a victorious monarch. In the centre of the structure is the portal, 56 ft. high, and through it the sacred or triumphal procession in all its gorgeous majesty to within the sacred precincts, there to observe the ritual ceremonials of the mysterious Egyptian cult of one or more of their eight great divinities or animal gods.

Having thus given a slight sketch of the architectural magnificence of the Egyptians, allow me to offer a tribute of respect to a brother architect: his name, as given by Mariette Bey, is inscribed on the Temple of Edfou. It was Ei-em-hotep Oer-si-Phtah Imouthes, the great son of Phtah, the only one yet discovered on the monuments of Egypt. I am afraid we are too late for its insertion in the colossal Architectural Dictionary of our time, unless it finds its way into an appendix.

The chronology of the Bible, as assumed by some learned men, gives the age of the world before the Christian Æra as 4004 years. Mariette Bey (p. 22) *under reservation*, founding the calculations upon dates afforded by inscriptions upon tombs, temples, obelisks, and other monuments, gives the date of the Egyptian empire alone and its dynasties as 5004. Bunsen assumes a still remoter period, and my friend Lesueur, our Honorary and Corresponding Member, in his "Chronologie des Rois d'Egypte," commences with 20,000, which latter is to be considered as an imaginary datum from which to start in computing the history of the world. But adopting Mariette Bey's comparatively moderate number of 5004 for the beginning of the Thinite dynasty, as the historic date of the commencement of Egypt's national existence, it fills one with wonder when we consider how many gaps occur in the continuous rule of Egypt's autonomy. How could the very existence of her nationality and arts be maintained, even with periods of more or less purity, when we know that for about 1,200 years, or nearly one-fourth of her existence, she was at various times ruled and overrun by the hykshos or shepherds, the Ethiopians and the Persians, under Cambyses, Darius, and Xerxes? At last she was conquered and ruled for 332 of those years by the Greeks and Romans from the time of Alexander and his successors to that of the Romans. Could any other people under such crushing circumstances have maintained their identity on their own native soil?

I cannot but think that the arrival and erection of the Alexandrian obelisk among us may produce very notable results in regard to our knowledge of ancient Egyptian history, connected as it is with our Bible. The old Greeks and Romans, the classics of our boyhood, have had their annals duly chronicled and reduced to elaborate histories by the learned. These, it is true, have been turned upside down by recent erudite inquiries, substituting a different and new chronology, and an assumed rational statement of facts. Egypt till very recently had no consecutive accepted history in our language, that I know of, until our learned Dr. Birch, of the British Museum,—a name honoured and esteemed by all Egyptologists, whether British or foreign,—compiled for the Christian Knowledge Society his summary of the ancient history of Egypt from the monuments, putting together with vast knowledge and most critical acumen an admirable history. There cannot be a doubt that our countrymen, as they pass by our obelisk, will have their curiosity excited by the sight of hieroglyphs which may have been seen and read by the Jews in the time of Moses, or when our Saviour was taken by his parents to Egypt as a place of refuge from Herod's rage. They will seek in Dr. Birch's book the solution of the mysteries revealed in those enigmatical sculptures, and the history of that ancient people.

The Funeral of Sir Gilbert Scott.—We learn,—too late to include the information in our special report,—that the following gentlemen, representing the Royal Institute of British Architects, acted as volunteer doorkeepers at the Abbey, viz.:—Messrs. Charles Fowler, F. T. Dollman, J. S. Edmeston, jun., Lacy W. Ridge, R. C. Page, H. H. Stannus, and W. G. Davie.

SOCIETY OF BRITISH ARTISTS.

THIS Society has opened its exhibition for the present season (the fifty-fifth), in the ground-floor rooms at 9, Conduit-street; but the hope we had indulged that their removal into rooms with a less extent of wall space would lead to an improvement in the average quality of the exhibition, by rendering possible a more exclusive selection, is, we are sorry to say, not realised so far. There certainly are a few nice things to be picked out, by Messrs. J. B. Knight, Grace, Marsh, and one or two others; and Mr. A. B. Donaldson's picture of "The Pier Band" of course has ability, but in aim and feeling it is not refined. But of the collection, on the whole, it is really impossible, with all the stretch of goodwill, to say anything complimentary. We can only hope that things may be better next time. We may point out to artists that the new rooms have a much better light than the old, and are very well fitted for the advantageous exhibition of works of cabinet size.

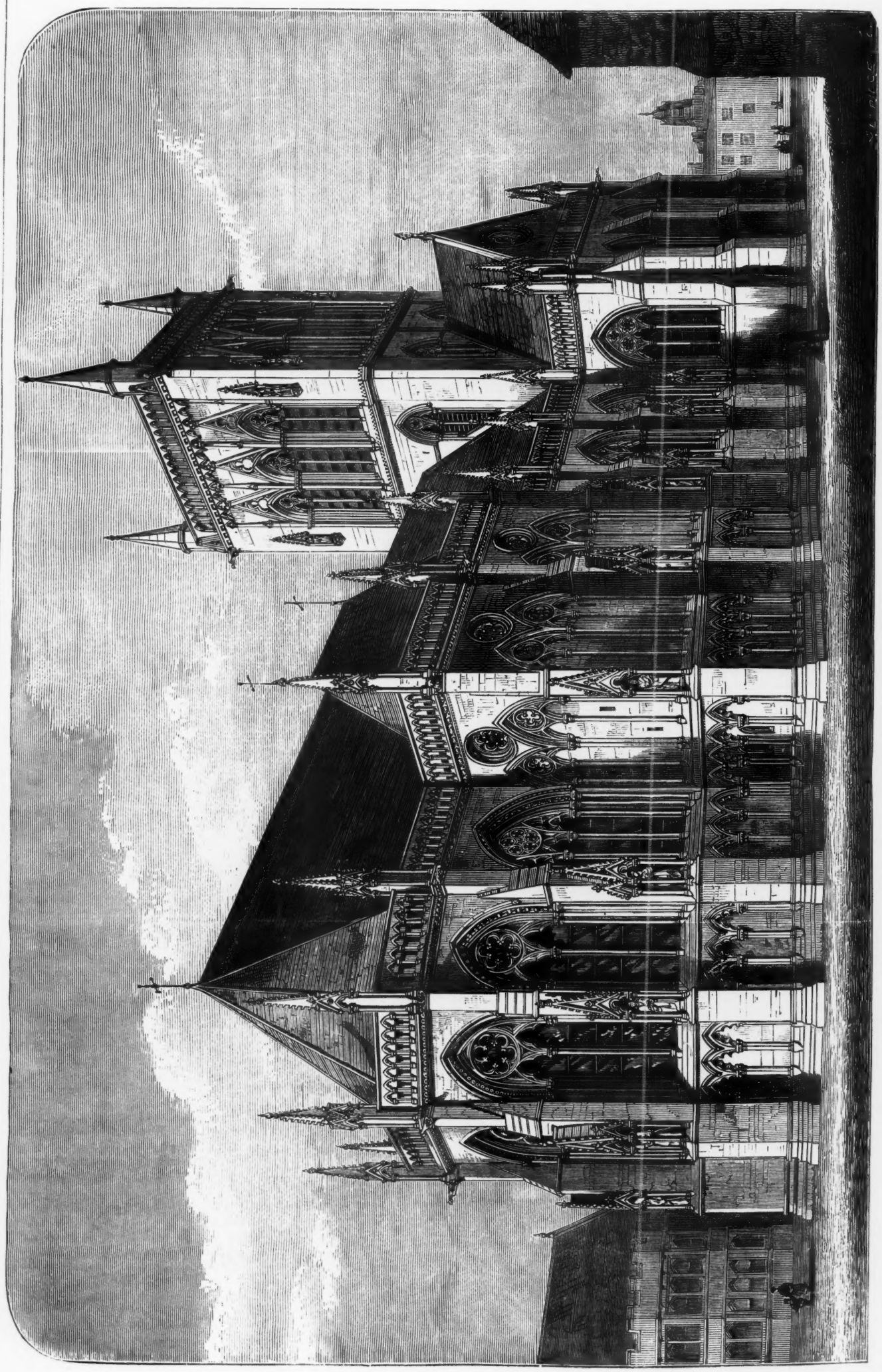
ST. JOHN'S COLLEGE CHAPEL, CAMBRIDGE.

IN the course of recent notices of the late Sir Gilbert Scott, allusions have been made to the chapel of St. John's College, Cambridge, the interior of which must rank amongst his most successful works of that character. In 1869, when the new chapel was opened, we gave some illustrations, interior and exterior.* We now add a view of the exterior from the east end. The chapel proper is 145 ft. long by 34 ft. wide, and ends in an apse of five bays. The ante-chapel is 78 ft. by 32 ft. The tower, 42 ft. square outside, is somewhat short, 140 ft. to the top of the parapet, and 163 ft. to the top of the pinnacles. Messrs. Jackson & Shaw were the contractors, and the internal decorations, which are very considerable, were executed by Messrs. Clayton & Bell.

ST. SAVIOUR'S CHURCH, WATERFORD.

THIS church has recently been erected for the community of Dominican monks in this city. The plan is based on the basilican arrangement. The nave, 28 ft. by 111 ft., is separated from the aisles, which are 16 ft. wide, by arcades of six arches, carried on monoliths of polished grey granite from Messrs. Freeman's quarries, Penryn, Cornwall. The aisles are arcaded for side altars and confessionals, but without windows in their outer walls. The nave arcade has Corinthian capitals, freely treated in the Florentine spirit, after sketches by the architect, by Mr. Pearse, of Dublin. A niche carried on consoles occupies each spandrel, and a continuous clearstory, glazed with strap-work glazing in three tints, in rolled glass, lights the whole structure in a perfect manner. This glazing is by Messrs. Wailes & Strong, of Newcastle. The roofs are open-framed work, richly moulded and panelled, with corbels and arched braces and pendants. The choir arch, 37 ft. high, has two fine monoliths of 16 ft. each, the pedestals panelled in red Irish marble, and over the arch a large escutcheon of the arms of the late Pope, and sculptured wreaths and panels fill up the space. The choir itself is vaulted with a circular dome, and lighted from lunettes and a top light. It is intended to erect a very sumptuous altar and reredos beneath the dome, of marbles and sculptured and gilt oak work. The stalls of the monks will be behind the altar, and following the curve of the apse. Right and left of the choir are side chapels, and spacious sacristies, &c., are arranged beyond. Exteriorly the building is simple in character. The principal façade, however, towards Bridge-street has a lofty order of Corinthian pilasters, and is adorned with niches, a large escutcheon of the Dominican armorial bearings and panels of polished red granite. At the angle formed by Bridge-street and Queen-street rises a lofty campanile, with Corinthian pilasters, an arcaded belfry story, and a domed roof, altogether a little over 100 ft. high. The work has been carried out by Messrs. Ryan & Son, builders, of Waterford. The cost of the fabric, exclusive of fittings, will be about 11,000*l.* Messrs. Goldie & Child were the architects, the design being by Mr. Goldie.

* Vol. xxvii., pp. 384, 386, and 387. In an earlier volume, xxi., p. 225, will be found Sir Gilbert's original design for the chapel, afterwards changed.



ST. JOHN'S COLLEGE CHAPEL, CAMBRIDGE.—THE LATE SIR G. GILBERT SCOTT, R.A., ARCHITECT.

ST. SAVIOUR'S DOMINICAN CHURCH, WATERFORD, IRELAND.—Messrs. Goldie & Child, Architects.

FUNERAL OF SIR G. GILBERT SCOTT, R.A.

SERMON BY DEAN STANLEY.

The remains of the late Sir George Gilbert Scott, R.A., LL.D., F.S.A., &c., were interred with befitting honours on Saturday last in the nave of Westminster Abbey. The procession started from the residence of the deceased, Courtfield House, Collingham-road, South Kensington, shortly after eleven o'clock, in the following order:—

The coffin on an open funeral car;

Carriage containing Sir Gilbert's sons: Mr. G. Gilbert Scott, Mr. J. Oldrid Scott, Mr. Alwyn G. Scott, and Mr. Duckinfield H. Scott;

Carriages containing members of Sir. Gilbert's family; followed by

Carriages containing Dr. Seton, the Rev. R. W. Forrest, D.D., Sir Gilbert's valet, Sir Gilbert's staff of assistants and pupils, and office-bearers of the following public bodies, viz., Royal Academy, Royal Institute of British Architects, Society of Antiquaries, Architectural Association, Royal Architectural Museum, Royal Archæological Institute, Ecclesiological Society, London and Middlesex Archæological Society, Society of Builders' Foremen and Clerks of Works, and representatives of other societies and institutions with which the deceased was connected.

The occupants of the carriages containing the office-staff were:—No. 1, Mr. George Wood (chief practical assistant, and private secretary to Sir Gilbert), Mr. J. M. Bignell (chief draughtsman, and senior), Mr. C. R. B. King (practical assistant and draughtsman), and Mr. John S. Lee (surveyor). Carriage No. 2, Messrs. J. Bignell, A. Baker, J. Medland, and — Barker (draughtsmen in order of seniority,—the first three in office-charge of works). Carriage No. 3, Messrs. Tonge, Jones, Turner, and Weatherley (draughtsmen in order of senority,—the last three in office-charge of works). Carriage No. 4, Messrs. Norton and Perkins (draughtsmen), and Messrs. Batters and Monkton (pupils). Carriage No. 5, Mr. Broughton (office-messenger and clerk), W. Strugnell (office-boy), and Mr. Godfrey (clerk of works to Mr. G. G. Scott).

The Royal Academy was represented * by Messrs. G. E. Street, E. M. Barry (treasurer), Alfred Waterhouse, J. L. Pearson, C. W. Cope, P. H. Calderon, R. Redgrave, G. Richmond, E. W. Cooke, E. Armitage, C. Landseer, A. Elmore, J. Sant, E. J. Poynter, G. D. Leslie, J. C. Hook, H. T. Wells, W. Calder Marshall, F. R. Pickersgill (keeper), W. F. Yeames, W. W. Ouless, H. H. Armstead, H. W. B. Davis, F. A. Eaton (secretary), and R. Phené Spiers (master of the Architectural School).

The following deputation from the Royal Institute of British Architects followed from Grosvenor Place, viz.: Coach No. 1, Mr. Charles Barry (president), Mr. J. Whichcord (vice-president), Mr. G. E. Street, R.A. (vice-president), and Mr. A. J. B. Beresford-Hope, M.P. (past-president). Coach No. 2, Mr. E. B. Ferrey,—representing his father, Mr. Benjamin Ferrey (vice-president), Professor T. Hayter Lewis, Mr. Henry Currey, and Sir Edmund Beckett, Q.C. Coach No. 3, Mr. John Gibson, Mr. Alfred Waterhouse, A.R.A.; Mr. E. I'Anson, F.G.S.; and Mr. George Godwin, F.R.S. Coach No. 4, Mr. Ewan Christian, Mr. Horace Jones (the City architect), Mr. G. Vulliamy (Superintending Architect of the Metropolitan Board of Works), and Mr. J. L. Pearson, A.R.A. Coach No. 5, Mr. A. W. Blomfield, M.A.; Mr. David Brandon, Mr. J. Edmeston, jun., and Mr. Arthur Cates (who also represented the Architectural Publication Society). Coach No. 6, Mr. Octavius Hansard, Mr. F. P. Cockerell (hon. sec. for Foreign Correspondence), Mr. J. Edmeston (also representing the Architectural Union Company), Mr. C. L. Eastlake (Keeper of the National Gallery, and late secretary to the Institute), and Mr. W. H. White (secretary-elect).

The following among other members of the Institute, met in the Chapter-house and joined the *cortége* at the Abbey, viz., Professor Donaldson, Messrs. W. Burges, F. C. Penrose (Surveyor to the Fabric, St. Paul's Cathedral), J. Douglass Mathews, T. Chatfeild Clarke, H. Dawson, T. Roger Smith, H. H. Stannus, James Neale, E. J. Tarver, E. R. Robson, R. W. Edis, Edwin Nash, E. C. Robins, J. Hebb (Assistant Architect, Metropolitan Board of Works), T. Blashill, Lacy W. Ridge, C. H. Cooke, H. C. Boyes, T. H. Watson, J. T. Micklethwaite, T. W. Cutler, J. T. Wood (of Ephesus), Wyatt Papworth, E. G. Hayes, J. McVicar Anderson, H. H. Collins, W. G. Davie, Charles Fowler, F. T. Dollman, J. J. Stevenson, Ralph Nevill, Somers Clarke, T. G. Jackson, W. White, F.S.A., and M. Wyatt, together with Mr. S. W. Kershaw, M.A., the librarian at the Institute.

The Society of Antiquaries* was officially represented by Mr. Frederick Ouvry (president), Lord Rosehill (vice-president), Mr. F. W. Burton (Director of the National Gallery), Mr. George Scharf (Keeper of the National Portrait Gallery), Mr. George Richmond, R.A., Mr. W. Chappell, and Mr. C. Knight Watson (secretary). Many other members of the Society met in the Abbey.

The Architectural Association was officially represented by Mr. Bowes A. Paice (president), Mr. T. W. Cutler (senior vice-president), Mr. J. Douglass Mathews (treasurer), and Mr. E. G. Hayes (senior hon. sec.). The following members of the Association met in the Chapter-house and joined the *cortége* on its arrival, viz.:—Mr. J. Sulman (vice-president); Messrs. H. C. Boyes, S. F. Clarkson, H. L. Florence, E. B. I'Anson, C. G. Vinall, A. Webb, W. Scott, and H. Tanner (members of committee); R. E. Pownall (hon. librarian); R. C. Page (hon. sec.); and the following past-presidents, viz.:—Messrs. T. Blashill, R. W. Edis, Rowland Plumbe, R. P. Spiers, T. H. Watson, L. W. Ridge, and G. H. Birch.

The Royal Architectural Museum† was officially represented by Mr. A. J. B. Beresford-Hope, M.P. (president), Messrs. Joseph Clarke and Maurice B. Adams (hon. secs.), and Mr. J. M. Lomax (assistant-secretary).

The Royal Archæological Institute was officially represented by Colonel Pinney (vice-president), the Rev. J. Fuller Russell (member of Council), the Rev. Canon Venables (Lincoln), Mr. Fairless Barber, Mr. Rivington, Mr. J. N. Foster, and Mr. Albert Hartshorne (secretary).

We give elsewhere the names of the official representatives of some of the other societies mentioned, the information not having been sent to us in time to be given here.

The route taken by the *cortége* was through the Cromwell-road, by Queen's Gate and Knightsbridge-road to Wilton-crescent and Grosvenor-place, thence *viâ* Grosvenor-gardens and Victoria-street to the Abbey. At Grosvenor-place the procession was joined by her Majesty's private carriage and a long line of other private carriages, among the occupants of which were: Mr. John Thompson, contractor, Peterborough; Mr. W. Brindley, sculptor, London; Mr. F. A. Skidmore, metal-worker, Meriden, Coventry; Mr. R. Coad, architect, and formerly pupil of the deceased; Messrs. Dove, Bros. (three), contractors, London; Mr. G. W. Booth, contractor, London, and Mr. Booth, jun.; Mr. Longmire (of the firm of Longmire & Burge), contractor, London, and Mr. Longmire, jun. In all, twenty-two mourning coaches and sixteen private carriages followed the funeral car.

On arriving at the Abbey, at about a quarter past twelve, the *cortége* drew into Dean's Yard, whence the body was carried through the cloister into the nave, and thence to the bier in the choir, preceded by choristers and the clergy of the Abbey (represented by Archdeacon Jennings, Canons Prothero, Duckworth, Leighton, and Farrar, and Minor Canons Cotton, Price, and Flood Jones), and followed by the occupants of the carriages, two and two, and by the large number of noblemen and gentlemen who had been in waiting in the Chapter-house. Amongst those not already named who joined the procession at the Abbey, were the Duke of Westminster, K.G., Lord Houghton, Lord Crewe, the Right Hon. W. Cowper-Temple, M.P.; Lord Henry Lennox, the Hon. C. L. Wood (president of the English Church Union); the Deans of Canterbury, Chichester, and Rochester; Archdeacon Emery; Archdeacon Balston; Canon Moore; the Rev. R. M. Blakiston (secretary of the Incorporated Church-Building Society); the Rev. W. J. Lawrance, rector of St. Alban's; Mr. H. G. Ellis, hon. sec. of Exeter Cathedral Restoration Fund; Colonel Akroyd, Mr. E. Freshfield, Sir E. H. Lechmere, M.P.; Mr. C. Brent, Mr. Butterfield, Mr. G. G. Adams, Mr. C. Luxmoore, the Right Hon. A. S. Ayrton, Mr. Lewis Angell, and Messrs. Clayton & Bell (artists in stained glass).

The following were among the clerks of works present, viz.: Mr. Irvine (Lichfield Cathedral), Mr. Morgan (Edinburgh Cathedral), Mr. Chapple (St. Alban's Abbey), Messrs. Roome (two), Hannaford, Saville (Midland Station), Kaberry (Lincoln's Inn), Sheffield (Home and Colonial Offices), Prosser, H. R. Snelgrove, and many old clerks of works who had served under Sir Gilbert Scott, and whose names we have been unable to obtain.

Representatives of the following contractors were also present, viz.: Messrs. Silver & Son, Maidenhead; Mr. Luscombe, Exeter; Mr. Collins, Tewkesbury; Mr. Higham, Wolverhampton; Messrs. Cooke & Co. London; Mr. W. Carruthers, Reigate; Mr. T. Whiteley, Leeds; and Messrs. Dennett & Co., concrete-arch patentees, London.

The Turners' Company (of which Sir Gilbert was a member) was represented by the Master (Mr. R. L. Loveland), the Upper Warden (Mr. Charles Hutton Gregory), the Renter Warden (Mr. J. T. Holtzapffel), the Chaplain (the Rev. J. Light, M.A.), Mr. Shirreff, Mr. John Jones, and Professor Tennant.

The pall-bearers were: Mr. A. B. Mitford, Secretary, Office of Works (representing the Right Hon. Gerard Noel, M.P., First Commissioner); the Right Hon. Lord John Manners, M.P., Postmaster-General; Mr. R. Redgrave, R.A. (representing Sir Francis Grant, P.R.A.); Mr. Charles Barry, F.S.A., President of the Royal Institute of British Architects; Mr. Frederick Ouvry, President of the Society of Antiquaries; and Mr. A. J. B. Beresford Hope, M.P., President of the Royal Architectural Museum.

The initiatory sentences of the Burial Service were read by Archdeacon Jennings. A full choir was in attendance, and Dr. Bridge presided at the organ. Purcell and Croft's Musical Service was used, together with Dead Marches by Beethoven and Handel. Canon Prothero having read the Lesson from 1 Corinthians xv., the body was borne from its temporary resting-place to the grave, followed by Dean Stanley (who had throughout the foregoing part of the service occupied his stall in the choir), and the vast concourse of sorrowing relatives and friends. The grave is situate in the nave, in close proximity to that of Sir Charles Barry, and immediately in front of the pulpit erected from the designs of the deceased. The coffin, covered with crosses and chaplets of flowers, having been lowered into the grave (which was only some 5 ft. or 6 ft. deep), the concluding portion of the service was impressively said by Dean Stanley, whose voice, though tremulous with emotion, must have been distinctly heard by all present, not excepting those who looked down from the triforium upon the solemn scene. Handel's funeral anthem, "His body is buried in peace, but his name liveth evermore," having been sung by the choir, the service was brought to a close, and as those who had known Sir Gilbert Scott in life passed out of the Abbey, after a last look into his grave, the organ pealed forth the solemn strains of the "Dead March" in "Saul." The coffin was of polished oak, with brass fittings. On the lid was a large brass cross springing from a pedestal, on the base of which were the words

MEMENTO MEI DOMINE JESU.

On a brass plate beneath the base of the cross was the following inscription:—

GEORGII GILBERTI SCOTT, EQUITIS
VIRI PROBI ARCHITECTI PERITISSIMI
PARENTIS OPTIMI RELIQUIÆ HIC
IN FIDE JESU XTI RESURRECTIONEM
EXPECTANT. OBIIT 27° DIE MARTII
ANNO SALUTIS 1878° ÆTATIS 67°.

The Abbey was crowded with spectators, who were, with scarcely an exception, attired in mourning. The undertaker was Mr. Sworn, of Ebury-street.

* In giving these lists of names, which we have endeavoured to make as complete as possible, we are unable to distinguish, in all cases, the gentlemen who followed in coaches from those who joined the procession in the Abbey. Some of the names are, for the sake of completeness, mentioned in connexion with more than one institution.

* Sir G. G. Scott had long been a Fellow of the Society of Antiquaries, and had frequently been a member of the Council. He was to have read a paper before the Society on the 4th inst.

† Sir Gilbert Scott was treasurer of the Museum, and one of its founders. He wrote a guide to, and compiled a catalogue of, the objects in the Museum.

The Very Rev. A. P. Stanley, D.D., Dean of Westminster, preached on Sunday afternoon. Taking as his text the first verse of Psalm cxxii.,—"I was glad when they said unto me, Let us go into the house of the Lord,"—he said:—"The house of the Lord": it is an expression which we at once recognise as figurative, because even the heaven of heavens cannot contain Him, much less this "house"; nevertheless, like all familiar metaphors, it is an expression which has a deep root in the human heart and mind, and is the germ of all religious architecture. This is the reason why the most splendid buildings in the world have been temples or churches. This is the reason why even the most spiritual and even the most Puritanical religion clothes itself with the drapery not only of words and pictures, but with wood, stone, and marble. It is the consciousness of the intimate connexion between the spiritual and the material temple,—between the grandeur of religion and the grandeur of its outward habitation, which gives a living interest to that which I would this day bring before you,—the religious aspect of the noble science and art of architecture. We yesterday laid within these walls the most famous builder of this generation. Others may have soared to loftier flights, or may have produced special works of more commanding power; but within the last thirty years no name has been so widely impressed upon the edifices of Great Britain, past and present, as that of Gilbert Scott. From the humble but graceful cross, which commemorates at Oxford the sacrifice of the three martyrs of the English Reformation, to the splendid memorial of a Prince who devoted his life to the service of his Queen and country; from the Presbyterian University on the banks of the Clyde, to the college chapels on the banks of the Isis and the Cam; from the proudest minster to the most retired parish church; from India to Newfoundland: the trace has been left of the loving eye and the skilful hand that are now cold in death. Truly was it said by one who from the distant shores of a foreign land rendered yesterday his sorrowing tribute of respect,—"In nearly all the cathedrals of England there must have been a shock of grief when the tidings came of the sudden stroke which had parted them from him who was to them as their own familiar friend and foster-father." Canterbury, Ely, Exeter, Worcester, Peterborough, Salisbury, Hereford, Lichfield, Ripon, Gloucester, Manchester, Chester, Rochester, Oxford, Bangor, St. Asaph, St. David's, Windsor, St. Alban's, Tewkesbury, and last, not least, our own Westminster, in which he took most delight of all the buildings in all the world,—all are the silent mourners round the grave of him who loved their stones and dust, and knew them to their very hearts' core. But it is good on these occasions to rise above the personal feelings of the moment into those more general lessons which the career of the departed suggests. It was the singular fortune of that career that it coincided with one of the most remarkable revolutions of taste that the world has witnessed. That peculiar conception of architectural beauty which we name Gothic was totally unknown to Pagan or Christian antiquity. It was unknown alike to the builders of the Pyramids and the Parthenon, of the Roman basilicæ, and the Byzantine Sta. Sophia. Born partly of Saracenic and partly of German parentage, it gradually won its way to perfection by a mysterious instinct which prevailed over Europe in the Middle Ages. It flourished for four centuries, and then it died as completely as if it had never existed, and other styles took its place. By Catholic and by Protestant it was alike repudiated. By the hands of French and Italian prelates, no less than by English and Scottish Reformers, its traces were obliterated. Here and there perhaps a momentary tribute of admiration was paid to the "high-embowered roof" or stately pillar, but as a general rule it was regarded as a lost art. Our poets and painters of the sixteenth and seventeenth centuries make no more allusion to it than if they had been born and bred in the Pacific Isles. In the first half of this century a new eye was opened in the mind of man. Gradually, imperfectly, through various channels,—in this country chiefly through the minute observations of a Quaker student,*—visions of a strange past arose before a newly-awakened world. The glory and grace of our storied arches, our stained windows, our recumbent effigies, were revealed as they had been to no mortal eyes since the time of their erection. To imitate and preserve this ancient style in its remarkable beauty was the inevitable consequence, I might almost say the overwhelming temptation, of this new discovery. The hour was come when the Ecclesiastical architecture of the past was to be roused from its long slumber, and with the hour came the man. We do not forget that splendid if eccentric genius,* who gave himself, though not with undivided love, to the service of another communion. We cannot but remember the gifted architect † who raised the stately halls and commanding towers of the Palace of the Imperial Legislature, and who was laid long years ago—in fitting proximity to his own great works—within these walls, and where, yesterday, he was followed by him of whom I would now speak. For there was one who, if younger in the race, and at the time less conspicuous than they, was destined to exercise over the growth of Gothic architecture in this country a yet more enduring and extensive influence. When in this Abbey the first great note of that revival was struck by the erection of the bastard Gothic canopies in the place of the Classic altar-piece which was relegated to a distant country parish, a boy, fourteen years old, watched the demolition and reconstruction with a curious vigilance, which from that time never flagged for fifty years. That was the earliest reminiscence which Gilbert Scott retained of Westminster Abbey; that was the first inspiration of that Gothic revival which swept away before its progress not only the plaster reredos of this Abbey, but a thousand other crudities of the same imperfect period. He became the impersonation and incarnation of the taste of the age. Antiquarian, as well as artist and builder, he became to the fossils of Mediæval architecture what Cuvier and Owen had become to the fossils of the earlier world of nature. It may be that others will succeed to whom the marvellous bounty of Providence shall bestow other gifts, but meanwhile we bless God for what we have had in our departed friend and his fellow-workers. The recovery,—the second birth,—of Gothic architecture is a striking proof to us that the human mind is not dead, nor the creative power of our Maker slackened. We bless the Power which breathed this new inspiration into the men of old, and which has, even from their dry bones, breathed it once again into the men of these later days. But it is not enough that a great gift should be resuscitated or a great style imitated. We ought to ask wherein its greatness consists, and in what relation it stands to the other gifts of the Creator. There are many characteristics of Mediæval architecture, as of the Mediæval mind, which have totally perished, and which ought never to be revived,—which represent ideas which for our time have lost all significance, and purposes which are doomed to extinction. The Middle Ages left on the intellect of Europe few, very few, enduring traces. Their chronicles are but the quarries of later historians; their schoolmen are but as an extinct species of a dead theology. Two great poems and one book of devotion are all which that long period contributed to the universal literature of mankind. But their architecture still remains eternal as Ararat, and the reason of its continuance or survival is, that in its essential features it represented thoughts, aspirations, and ideas of religion which are eternal. As in Mediæval Christianity there are elements which belong to the undeveloped Protestantism of the Western churches, so also in Mediæval architecture there are elements which belong to the churches of the Reformation as well as to the churches of the Papal system. Its massive solidity, its aspiring height, its unbounded space,—these belong not to the tawdry, trivial, minute, material side of religion, but to its sobriety, its grandeur, its breadth, its sublimity. And therefore it was that when this revival of Gothic architecture took place, it was amongst the Protestant churches of England, rather than in the Roman Catholic churches of the Continent, that its first growth struck root. The religious power of our great cathedrals, as has been well remarked, has not lost, but gained. Our worship has become more solemn, more simple, more reverential, more comprehensive. To these greater and nobler effects of religious architecture, he who is gone was on the whole a faithful witness. There is, it is sometimes said, a cloud of superstition which, with the latter half of this nineteenth century has settled down over a large part of the ecclesiastical world; but the last places which it will reach will be the magnificent architectural monuments which he guarded with scrupulous care, and which he and many of his compeers approached with such intelligent discrimination. The great architects of this century are too well acquainted with the aims of their noble art to allow it to be the handmaid of sect, or party, or the instrument of a senseless proselytism. This leads me to one more tendency of the revival of which he who lies in yonder grave was the pioneer and champion. For the first, or almost for the first, time in the history of the world, the architecture of the nineteenth century betook itself, not to the creation of a new style, but to the preservation and imitation of an older style. With perhaps one exception, every age and country down to our own has set its face towards superseding the works of its predecessors by erecting its own works in their place. The Normans overthrew the churches of the Saxons. Henry III. in this place totally swept away, as of no value whatever, the noble abbey of the Confessor. Henry VII. built his stately chapel in a style in marked contrast to the rest of the building. The great architects of St. Peter's at Rome, and St. Paul's in London, adopted a style as totally different from the Mediæval style as it was from the Grecian architecture which they admired. And now in our own time, the whole genius of the age threw all its energies into the reproduction of what had been, rather than perfecting what was to be. This was a work which, in the case of the illustrious departed was exceedingly congenial. The man to carry out this striking retrospect was found in one whose inborn modesty used to call the colour into his face at every word of praise,—whose reverential feeling led him instinctively to admire and understand. And yet in him this very tendency took so large and generous a sweep as to counteract in large measure the excesses into which minds less expansive and less vigorous are sure to fall. Because the bent of his own character and of his time led chiefly to the restoration of Mediæval art, he was not on that account insensible to the merits of the ages which had gone before, or of those which had succeeded. With that narrow pedantry which would fain turn out from the Abbey of Westminster all the monuments and memorials of the last three centuries he had no sympathy. He regarded these as the footprints of the onward march of English history, and whilst, with a natural feeling of regret at the inroads they had made into the earlier glories of Plantagenet or Tudor times, he was willing to prune away disproportionate encroachments, he cherished their associations almost as tenderly as if they had been his own creations; and he would bestow his meed of admiration as freely on the modern memorial of Isaac Watts as on a Crusader's effigy. It was this loving care for such heterogeneous elements of the past, it was this anxious, unselfish devotion to all their multifarious details, which made him so wise a counsellor in the reparation, conservation, and glorification of the edifices committed to his charge, and which, amidst his absorbing professional duties, it is not too much to say he made his first love, his chief, his last, his enduring interest. Such is the loss which the Church and the country deplore, and which we in this place mourn perhaps most of all. We cannot forget him. Roof and wall, chapter-house and cloister, the tombs of the dead and the worship of the living,—all speak of him to those who know that his hand and his eye were everywhere amongst us. This very sense of what he did for us ought to render us more alive to do what we can for him. His memory must stimulate us to carry on with unabated zeal those works in which he took so deep a concern: the completion of the Chapter-house by its long-delayed and long-promised windows of stained glass; the northern porch, which he desired, above all things, to see restored to all its former magnificence; and the new cloister which he had designed as a burial-place for the illustrious dead of the future. So long as these remain unaccomplished, his grave will continue to reproach us who survive him; when they are completed they will be amongst the most glorious monuments of him whose requirements of what was due to this national sanctuary were so exacting. It has been sometimes said that it was by a strange irony of fate that the great leader of the revival of Mediæval architecture

* Rickman.

* Pugin. † Sir Charles Barry.

should be the grandson of a commentator who belonged to the revival of what was called Evangelical religion. Yet, from another point of view, it is a fitting continuity. It is always well to be reminded that the revival, or, as I may better put it, the increase of sincere religion, belongs to a period long anterior to the multiplication of those external signs and symbols of which our age has made so much. In the deep sense of that inward religion, that simple faith in the great Unseen, the grandson who multiplied the visible sanctuaries throughout the land was not an unworthy descendant of the grandfather who endeavoured, according to the light of his time, to draw forth the mysteries of the Book of Books. We in this place, who knew him and valued him, and leant upon him as a tower of strength in our difficulties,—who honoured his indefatigable industry, his child-like humility, his unvarying courtesy, and his unbroken candour,—who know how he loved and valued the place we also love and value,—must all feel that in him we have lost one of those gentle, guileless, upright souls who in their lives have helped to elevate, and in their memories may still elevate, our souls heavenward. And when we speak of the work which such a career bequeaths to those who remain, let us remember that, although the shell, the framework, of a great building like this is an inestimable gift, and that though its creation and preservation pertain to the noblest functions of human genius and of national enterprise, yet upon us to whose charge it is committed depends in no slight measure its continuance in the future and its usefulness for the present. There are those who openly avow their desire and intention to suppress all the expressions of worship or of teaching within these or like edifices, and to keep them only as dead memorials of the past,—who would like to see such grand buildings reduced to the state of the silent and ruined vaults of Tintern, rather than that they should resound with the music of the Psalmist or the voice of the preacher. Verily it is for us so to fulfil our several duties, it is for us so to people this noble sanctuary with living words and deeds of goodness and wisdom, that such dreams of the destroyer may find no place to enter in, no shelter, and no excuse in our neglect or ignorance or folly. The grave of our great architect is close against the new pulpit which he erected to commemorate the establishment of services in the nave, which were first set on foot by my predecessor,* and which have since spread throughout the country. This ought to remind us, the guardians and keepers of this place, of the kind of service we may render. Every one of us has it more or less in his power to increase the fame, to strengthen the stability, and to ensure the perpetuity of this Abbey. That is the best memorial we can raise, that is the best service we can render, to all those, dead or living, who have loved, or who still love, this holy and beautiful house, wherein our fathers worshipped in the generations of the past, and wherein, if we be but true to its glorious mission, our children and our children's children shall worship in the generations that are yet to come.

The eloquent discourse of which we thus give so full a report, was listened to with rapt attention by an unusually large congregation. The choir, transepts, and sacrarium were crowded to their utmost capacity, many hundreds of ladies and gentlemen having to stand throughout the service, which lasted nearly two hours. Many of the architects already named, and innumerable contractors, clerks of works, and foremen, were present. As the congregation dispersed, the "Dead March" in "Saul" was performed on the organ.

At the ordinary fortnightly meeting of the Architectural Association on the 5th inst., the arrangements which had been made for the Association to be represented at the funeral were explained, after which,

Mr. J. Douglass Mathews moved the following resolution, which had been drafted by the President, Mr. Bowes A. Paice:—

"That the president, committee, and members of the Architectural Association desire to express their very great regret at the loss the whole body of the profession has sustained by the death of so distinguished a member as Sir Gilbert Scott, and to offer to his family their most heartfelt sympathy in their bereavement."

Mr. Mathews said the resolution would need no remarks that he could offer in commendation of it. The loss of Sir Gilbert Scott was a loss not only to the profession, but to the public generally. Sir Gilbert was well known to many of them, and by everybody who knew him he was thoroughly respected. The members of the Association had not latterly had the pleasure of seeing Sir Gilbert amongst them so frequently as in former years, but he was always ready to do what he could for them. Some years ago he read a paper to them on "The Arts accessorial to Architecture," the result of which was to encourage study on the part of younger members of the Association, and to lead to the formation of some of the classes held for some time in connexion with the Architectural Exhibition, although, unfortunately, those classes did not meet with the support which had been expected. Sir Gilbert was ever ready to do everything in his power to promote the study of architecture by every one engaged in it, and therefore his loss would be deeply felt. He was a man thoroughly wrapped up in his profession, and sincerely respected both inside and outside of it, and the least the Association could do was to record its deep sense of the loss it had sustained.

Mr. W. Todd, in seconding the resolution, said that the profession had been highly-gifted in having such a man as Sir Gilbert Scott in its ranks. He had, by his talents, raised the noble art of architecture in the estimation of the public. To realise what he had done by his never-tiring efforts, it would be necessary to look back and see how low the art had sunk just about the time he commenced his career, and then to look at its position in the present day. While nothing could grieve them more than the death of so noble a scion of the profession, on the other hand nothing could gladden their hearts so much as that his fame should stand upon as high a pedestal as it deserved in recognition of his labours in raising the art in which they all gloried.

The resolution was carried by acclamation.

* Dean Trench, now Archbishop of Dublin.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the ordinary general meeting of this Institute held on Monday evening last, Mr. Charles Barry, president, in the chair, the following gentlemen were balloted for and duly elected, viz.:—as Fellows: Mr. T. Mellard Reade, of Liverpool, and Mr. H. Heathcote Statham, of Queen Anne's-gate. As Honorary Associate: Mr. William Tipping, of Brasted Park, Sevenoaks. Amongst the nominations for the Honorary Associateship of the Institute was that of Sir Edmund Beckett, Q.C.

Several donations to the library were announced. Amongst the donors was Mr. James Fergusson, F.R.S., who presented his new work on "The Temples of the Jews, and other Buildings of Jerusalem." The library now, by the kindness of Mr. Fergusson, possesses copies of all his works.

The President, in moving a vote of thanks to the donors, said that special recognition ought to be made of Mr. Fergusson's kindness. He believed that the work which Mr. Fergusson now presented was the one upon which the author considered that he had spent more care and research than he had expended on any of his previous productions. If that were the case, the present work, judged by its forerunners, must be valuable indeed. Mr. George Aitchison had presented some pamphlets, including one entitled, "How can Art be Introduced into the Houses of Persons with Limited Incomes?" Nobody had better succeeded in practically answering that question than Mr. Aitchison himself.

The vote of thanks to the various donors having been accorded by acclamation,

The President said he had received the following letter from the Queen approving of the Institute's nomination of Mr. Alfred Waterhouse, A.R.A., as this year's Royal Gold Medallist:—

"Buckingham Palace, 29th March, 1878.

Sir,—I have to acknowledge the receipt of your letter of the 23rd inst., announcing the recommendation of the Institute of British Architects that the Royal Gold Medal should be conferred on Mr. Alfred Waterhouse, and having submitted this award to the Queen, I am commanded to notify to you Her Majesty's approval of it. I have the honour to be, sir, your obedient servant,

Charles Barry, esq." Thos. Biddulph.

The President said that before they came to the business of the evening, there were one or two things of which they would be glad to be informed. They would be aware that the Architectural Conference took place this year, the last having been held in 1876, and with the increased activity and growth of the Institute he ventured to hope and believe that this year's Conference would be even more successful than those which had preceded it. Some earnest of success would, he thought, be found in the fact that Professor Hayter Lewis had undertaken to serve as acting chairman of the Conference, and he would have, as honorary secretaries of the Conference, two most valuable coadjutors in Messrs. Arthur Cates and R. Phené Spiers. He hoped that many of those members who had the welfare of the Institute very much at heart would show their desire to promote its welfare and that of the profession generally by intimating their willingness to contribute papers to be read at the Conference, and by offering suggestions which would tend to promote the success of the gathering. Of course, the Council were, *ex officio*, the committee for making arrangements for the Conference, but the gentlemen named had taken the labouring oar in the matter, and they would gladly welcome the co-operation of any other gentlemen in organising the Conference.

The President also said he desired to press upon the attention of the members the earnest wish of him whom they all so deeply mourned that members who had it in their power should contribute to the Institute's collection of "Drawings of Ancient Buildings recently Restored." The late Sir G. Gilbert Scott, in his presidential address, November, 1874, said:—"Our [the Institute's] rooms ought to be the 'Public Record Office' of all which relates to the ancient and perishable relics of our own and of the collateral arts." The Council entirely endorsed that sentiment, and had invited members to contribute to the collection. In response, there had been several contributions, but not so many as might reasonably have been looked for. The principal contributors so far had been Mr. R. H. Carpenter (whose drawings of Earl's Barton and Brigstock churches were capital illustrations of the kind of thing desired), Mr. J. P. Seddon, Mr. R. J. Withers, Mr. J. W. Hugall, Mr. E. J. Tarver, and Mr. R. M. Fulford. [Some of the drawings presented by these gentlemen were hung on the walls for inspection on Monday evening.] The Council would like to see the collection largely added to.

Mr. J. T. Wood, the discoverer of the Temple of Diana at Ephesus, thanked the members for the honour they had done him in electing him an Honorary Fellow.

The President called attention to Mr. James Neale's valuable and exhaustive work on the Abbey Church of St. Alban's. It would be remembered that Mr. Neale read a paper before the Institute not very long ago,* and exhibited some of the numerous and beautifully-executed drawings which had been reproduced in the work. On that occasion their lamented friend Sir Gilbert Scott, who had architectural charge of the Abbey, bore his testimony in the most laudatory terms to the industry and ability of Mr. Neale. He (the President) was sorry to hear that with the number of subscribers already obtained† there would be a rather considerable loss on the production of the work. This ought not to be the case, for the book would ever be a cherished volume in every architectural library.

Mr. R. Phené Spiers said that the Institute was honourably associated with the work, because it had rewarded Mr. Neale for the drawings which formed its basis with the Pugin Studentship. A few members of the Institute had voluntarily subscribed for a copy, and presented it to the Library.

Mr. Cates said that last year considerable attention was aroused by what were called by some, "illicit commissions," and by others, "frauds by fiduciary agents." At that time some, unwarranted imputations were made upon architects generally as being amongst those who were in the constant habit of receiving such illicit commissions. Those unfounded charges were met in a most excellent manner by the President of the Institute, by Mr. Street, and by Mr. E. M. Barry. He thought it was desirable that the Institute should follow up the subject. He noticed that in the House of Commons the subject was alluded to on the 12th ult., when Mr. Burt asked the Home Secretary "the result of his investigation of the question of frauds by fiduciary agents, the practice of solicitors receiving a part of the commission from stockbrokers, auctioneers, life assurance

* *Builder*, vol. xxxv., p. 1299.

† The price of the work to subscribers is 4*l.* 4*s.*

offices, &c., on business introduced by them; and whether a Bill had been drafted by the law advisers of the Crown to punish briber and bribed in these and similar cases; and if so, when the Bill would be brought forward in the House." Mr. Cross, in reply, said he had consulted the Attorney-General, who was of opinion, —and that was also the opinion of the Government,—that the question of frauds by fiduciary agents was one that deserved careful consideration, and they had come to the conclusion that it would be advisable to introduce a Bill on the subject. Mr. Cates went on to say that he was informed by Sir Edmund Beckett that such a Bill had been drafted, and had met with the approval of the Attorney-General, and it would be satisfactory to know what steps the Council had taken in this stage of the subject.

The President said the announcement made at the beginning of the meeting that Sir Edmund Beckett desired to be admitted as an honorary associate of the Institute showed that he had entirely exonerated the members of the Institute from participation in the practice of receiving illicit commissions, and which practice he had so strongly denounced. He believed that Sir Edmund was completely satisfied with the unqualified disclaimers which he (the President) and other members of the Institute had made. The Institute had since taken action with reference to the proposed Bill. The committee appointed by the Council had to consider, not how they might purify the Institute,—for that were a work of supererogation, and long before Sir Edmund Beckett had thought fit to attempt to cleanse the moral atmosphere, the very constitution of the Institute was designed to be a safeguard for purity of action, and such a safeguard it had proved,—but what action they could take at the present juncture, and had quite consistently, when public attention was called to the abuses which existed in some quarters, waited for an opportunity to come when the Institute might publicly and corporately, in the name of the members, intervene. Directly they had seen the announcement by the Home Secretary that a Bill would be introduced, they directed the following letter to be written:—

"Royal Institute of British Architects,
21st March, 1878.

Sir,—The Council of this Institute have observed with great satisfaction that it is your intention to introduce in Parliament a Bill for the prevention of frauds by fiduciary agents. The alleged acceptance of illicit commissions by architects has for some time past engaged the attention of a Committee appointed by this Institute to investigate the subject; and as the object which that Committee have in view would necessarily be attained if your proposed Bill passed into law, our Council wish to assure you of their support and concurrence. Under these circumstances, our Council beg that you will kindly favour them with a copy of the draft Bill, in order that its details may be considered with reference to our profession and its relations to the public, and that the Council may have an opportunity of considering any points on which, with your approval, they may venture to offer suggestions. Meanwhile, I am requested to send you the enclosed copies of Declaration forms which Fellows and Associates of this Institute are requested to sign on their election, and by reference to which you will observe that one of the absolute conditions of membership of our body is a pledge that no such commissions as those I have referred to shall under any circumstances be received. I have the honour to be, sir, your obedient servant,

F. P. COCKERELL, Hon. Sec.

The Right Hon. Rd. Assheton Cross, M.P.,
Secretary of State, Home Department."

In reply to that letter, the following communication had been received:—

(61921) "Whitehall, 28th March, 1878.

Sir,—I am directed by Mr. Secretary Cross to acknowledge the receipt of your letter of the 25th inst., asking that the Council of the Royal Institute of British Architects may be supplied with a copy of the draft of the Illicit Commissions Bill, in order that its details may be considered in relation to the acceptance of such commissions by architects. I am, sir, your obedient servant,

A. F. O. LIDDELL.

The Secretary to the Royal Institute of
British Architects, 9, Conduit-street, W."

The President concluded by saying that as soon as the draft of the Bill came to hand, further action would be taken in the matter.

The discussion then took place on Mr. Josiah Conder's paper on "Japanese Architecture."* A report will be found following this.

The President said he was sorry to make the announcement that their respected friend, Professor Donaldson, was unable to be present to read his paper on "Obelisks." He was very unwell, having caught a severe cold, no doubt in consequence of his attendance at Westminster Abbey in connexion with the sad event which was in all their minds. They could only hope he would soon be better.

* See pp. 238, 263, *ante*.

Under these circumstances, Mr. W. H. White, the secretary-elect, read the paper, of which we give the substance elsewhere.

The President said that the author of the paper had started a number of interesting questions, ideas, and theories more or less recondite and interesting. The solution of some of those questions might be hoped for in the course of the discussion on the paper, which would take place on Monday next, the 15th inst. He hoped that on that occasion they would have the presence of Mr. John Dixon, who would perhaps explain to them the mode which he proposed to adopt for raising our obelisk on to its pedestal,* as compared with the methods adopted by the ancients, so far as they were known.

Mr. Charles Fowler moved a vote of thanks to Professor Donaldson for his interesting paper.

Mr. Hansard, in seconding the motion, said that perhaps if Mr. Dixon could attend next week he would bring the model exhibited at the *conversazione* of the Institution of Civil Engineers, showing how he proposed to raise the obelisk. He also hoped that they would have the presence of Dr. Birch on that occasion.

The motion having been carried by acclamation,

Mr. John Dixon said he should have pleasure in attending next Monday, as invited, and he should be glad if, on that occasion, the members of so eminent a society as the Royal Institute of British Architects would come prepared to discuss, rather more in detail than Professor Donaldson had discussed it in his paper, the forms of pedestals and bases which had been adopted for the European obelisks, because, from an architectural point of view, the successful erection of an obelisk in a new country, on a new base, and in a new position, must be one of the most interesting matters to which they could direct their attention. He sincerely hoped that the members of the Institute would be able to afford him some hints on the subject. He would bring with him a model or drawing,—perhaps both,—of the base which had been determined upon, after due consideration, as being the one most accordant with the circumstances in which the obelisk would be placed.

Mr. R. Phené Spiers moved a vote of thanks to the President, for the great trouble he had taken and the eminent services he had rendered in insuring due honour and respect to the memory of their lost friend, Sir Gilbert Scott. He understood that the Council had already passed a vote of thanks of that nature; but he was quite sure that the members generally would like to express their deep obligations to the President.

The motion, having been seconded by Mr. C. J. Phipps, F.S.A., was carried by acclamation.

The President, in acknowledgment, said he was quite sure that in what he had done he had interpreted the desires of the members generally, but he could not trust himself to speak on so sad a theme, as the circumstances of Saturday last had vividly recalled to his mind a former occasion on which he had been present at a funeral in Westminster Abbey.

The meeting terminated with the announcement that, after the discussion on Professor Donaldson's paper on "Obelisks," on Monday next, Mr. Thomas Blashill will read a paper on "The Vexed Question of Oak or Chestnut in Old Roofs."

* This was explained in a lecture, by Mr. John Dixon, to the Civil and Mechanical Engineers' Society, reported in last year's volume of the *Builder*, p. 326.

THE ARCHITECTURE OF JAPAN.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT the ordinary general meeting of this Institute, on Monday evening last, Mr. Charles Barry, president, in the chair, Mr. Josiah Conder's paper† on this subject was discussed,

Mr. Kidner, of Shanghai, said he could testify to the extreme accuracy of the descriptions which Mr. Conder had given of Japanese buildings. He (the speaker) had resided a good many years in China, and had occasionally, by way of holiday relaxation, gone across the water to Japan. On those occasions he had not pretended to make any connected study of Japanese buildings, but, being an architect, it was impossible for him to avoid noticing their principal points both as regarded construction and design. He had been particularly interested with the very good description of the temples of Shiba which was contained in the paper. Mr. Conder had apologised for what he was modest enough to call his deficient means of observation, but such an apology was unnecessary, as his observation had been most discriminating. His account of those buildings was as exhaustive and as accurate as it could be. To realise the accuracy of the descriptions given, the buildings referred to must be seen. An extreme artistic feeling pervaded the country generally. It did not matter where a building was, however small, however unimportant its purpose, however inexpensive, it was sure to be characterised by great artistic feeling. There was one little point of detail in the paper which he (Mr. Kidner) discovered, as it were, and that was that in all Japanese timber work the timbers that were rectangular in section—and they were chiefly so, though some were round—were all absolutely square, whether employed for rafters, joists, pales, or what not. The variety of ways in which the Japanese combined these square timbers was beyond the conception of those who had not seen their work; it would hardly be believed that so much artistic effect could be got out of square sticks of timber. The architecture of Japan was chiefly wooden, but not because of any want of skill or ability on the part of the natives to work in stone. The buildings were chiefly of wood to meet the inexpensive habits and modes of living of the people, and to withstand the disturbing effect of shocks of earthquake. He knew of nothing in Japan which struck him more forcibly than the extreme beauty of the town gateways, which were of stone, finely tooled. As to the origin of the style of architecture in Japan, as to which Mr. Conder seemed to have some doubt, he (the speaker) had no doubt in his own mind that it came from China. In all essentials the style was the same as that of China, but it had been modified by the greater artistic vigour of the Japanese. One of the chief advantages that might be hoped for from the reading of Mr. Conder's paper would be to impress the Japanese with a due sense of the beauty of their own art-work. At the present time the country and its art were being revolutionised by Western ideas. He (Mr. Kidner) could recollect the country in its old days very well, but the introduction of Western institutions had not been productive of unmixed good. To the beautiful bronze work to which Mr. Conder had referred they seemed to attach little or no value, for he (Mr. Kidner) had seen hundreds of tons of it in Yokohama broken up so that it might be exported without paying the customs' dues. One marked characteristic of the Japanese builders and workmen was that they kept to no contract or time: they seemed to have little or no notion of business. Artistic always, they were nothing more.

Mr. Hansard asked if Mr. Kidner could explain the meaning of the symbol on the tomb or monument of double trabeated form which appeared in nearly all the photographs exhibited.

Mr. Kidner said the common explanation of it was that it was a monument erected to virtuous widows,—*i.e.*, to those who did not remarry or who committed suicide on the death of their husbands, the latter alternative being considered the most meritorious thing to do.

Mr. Phené Spiers said that in speaking of "Japanese architecture," he was reminded of the story of the man who wrote a book on Ireland, and who after heading one of his chapters "On the Snakes of Ireland," wrote "There are no snakes in Ireland." Although Mr. Conder's paper professed to treat of Japanese architecture, he (Mr. Spiers) was afraid that, as a matter of fact, there was no architecture in Japan,—*i.e.*, no architecture as we in Western Europe understood the word. Whatever we might learn from the Japanese in such matters as costume and decoration, we should learn scarcely anything from Japanese architecture. The fact of the country being subject to earthquakes, to which Mr. Kidner had alluded, was quite sufficient to account for the absence of anything which could be called architecture. Of the stone architecture of Japan, that was to say of the walls and foundations, there were only three kinds: firstly, the roadways and foundations of the temples, which were only a few feet in height; secondly, the fortifications, which sometimes rose to a height of 40 ft.; and thirdly, the bridges, of which there were two kinds. There was one known as the "spectacles" bridge, which consisted of a bridge, 20 ft. across, in which there were two large holes, circular in form. In these bridges the

† "On Some Ancient Examples of Japanese Architecture." See *Builder*, pp. 238, 263, *ante*.

vousoirs of the arches were perfect in form, and therefore it was quite clear that the Japanese were very well acquainted with the arch, although they never carried it out in ordinary constructions. The model on the table had been kindly lent by Mr. T. W. Cutler, in illustration of Mr. Conder's remarks on the construction of Japanese buildings. The "kuras" or "godouns" seemed to be somewhat inappropriately named, seeing that during a fire they were very often the only buildings that did *not* "go down." These buildings were used by every Japanese person of wealth, who had one somewhere about his house in which to store away his valuables for greater safety in case of fire. That was the reason why visitors to Japan were often disappointed in their expectations of seeing in the houses they visited the wonderful artistic products which we imported into this country. Mr. Conder's paper contained the following description of the constructions referred to:—

"The walls are constructed on a vertical and horizontal framework of posts and beams morticed together, filled in with bamboo laths, laid crossing, bound together, coated with mud in several layers, and finally plastered over. Sometimes the beams and posts show, being flush with or projecting beyond the plastered surface, and sometimes the whole is plastered over, framework and all. This latter method is employed in larger buildings, and in the "kuras," or "godouns." A kura is often many months in building; the mud, which is taken from the bed of some river, being spread over the framework in a great number of layers, and each layer being allowed a long time to harden. The projecting timbers at the eaves are also thickly coated with the same clayey mud, and to the small window openings are hinged shutters coated to a very great thickness with the same material. The whole surface of the building is then plastered over, and finally covered with a coating of lacquer. These kuras often remain standing after street fires, but they are by no means thoroughly fireproof, for the mud often cracks and falls off with great heat, and even under ordinary circumstances they require constant renovation and repair."

In conclusion, Mr. Spiers said that the paper seemed to him to be extremely complete. It was, indeed, the only real account we had yet had, by an architect, of Japanese architecture.

Mr. Wyatt Papworth said that if Mr. Kidner could give information on one or two points the value of Mr. Conder's paper would be greatly enhanced. There were two measurements referred to in the paper, the "ho" and the "cho"; could Mr. Kidner inform them what these measurements were, and what were their relations to each other? If, too, Mr. Kidner could add a short table of Japanese chronology it would greatly add to the value of the paper.

Mr. Kidner said he had not the least idea what the measurements in question were. Possibly one of them was the same as the Chinese foot (equal to ten of our inches), for the Japanese copied the Chinese in many such points as this. He had not the remotest information as to the chronology of the Japanese.

The President, in proposing a vote of thanks to Mr. Conder for his paper, said that the author had shown that, even though, as Mr. Spiers had said, the Japanese had no architecture, they had, at any rate, a great deal of fancy and imaginative power; and if, instead of being a self-contained people, knowing nothing of other nations, they had had, in ages gone by, opportunities of knowing what the people of Europe and other parts of the world had done, we might now have seen the outcome of all their imagination and fancy, for it could not be supposed that their faculties in that respect would have remained undeveloped or unmodified under the influence of foreign intercourse. As the Japanese nation had of late years shown a great desire to cast off their self-containedness, we might possibly look forward to such a development of architectural art in Japan as only travelled experience could give.

In putting the vote of thanks, which was carried by acclamation, the President coupled with the name of Mr. Conder that of Mr. Cutler for his kindness in lending the model referred to.

Furniture and Woodwork. — A Special Loan Exhibition of Furniture, Cabinet-work, and Ornamental Woodwork used in the interior of dwellings is to be held in the Bethnal-green Museum during the summer months, commencing on the 1st of May. It is understood that the manufacture of household furniture is largely carried on in the East of London, hence the proposed exhibition will be of special interest in that district. H.M. the Queen has directed that a selection from the furniture of the Royal Palaces shall be included in this Exhibition. If some of our old work be compared with some of the new, the men of to-day will not have much to crow about.

THE PROPOSED MODEL BYE-LAWS OF THE LOCAL GOVERNMENT BOARD.

ARCHITECTURAL ASSOCIATION.

At the ordinary fortnightly meeting of this Association on Friday, the 5th inst., Mr. Bowes A. Paice, president, in the chair, the papers* read at the previous meeting by Messrs. J. Douglass Mathews and E. C. Robins on the subject of the proposed model bye-laws issued by the Local Government Board, in relation to public health, safety, and comfort, and with reference to the Amendment of the Building Acts, were discussed.

Mr. Thomas Blashill said Mr. Mathews's paper was so exhaustive, and his criticisms were so practical, that there was very little to say. One or two points, however, had not been much touched upon. One of these was with reference to ground floors, with reference to which it was stipulated by the fifty-sixth clause or law, that every ground floor in a new domestic building should have the earth below it covered with a layer of concrete 6 in. thick, between which and the lower side of the joists there was to be a clear space of 3 in. That was all very well in its way, but it assumed that the ordinary mode of constructing ground floors was the only one possible. It was his firm conviction that of all things which tended to make houses unwholesome and unhealthy, an open space under the ground floor was the worst. Both in official practice as a district surveyor, and in private practice, he had seen a great many old floors taken up, and the filthy condition of the spaces beneath them was indescribable. Of course, the purpose of the open space was to prevent dry rot in the timbers, but even when it succeeded in doing this, the filth which it caused to accumulate was something abominable. The provision of a bed of concrete under such floors was a great step in advance, of course, but the retention of open spaces at all under floors was a great mistake, and it would be much more desirable, on all accounts, to have solid floors of concrete, brick, or stone, covered where required with solid wooden blocks or parquetry, so that the floor should be absolutely solid from the upper surface downwards. This would not only be a healthier mode of floor construction, but he thought it would be a more economical method, looking at the quantity of timber saved. Another great evil of ground floors with hollow spaces beneath them was that they harboured vermin in the shape of rats and mice, from which even houses where a cat was kept were not always free. He had nothing to say against what had been poetically called

"The harmless, necessary cat,"

where the cat was necessary, but he preferred to dispense with its assistance, if possible. Another point to which Mr. Mathews had drawn attention was the question of parapets, which, if the bye-laws were to become law, would have to be built to nearly every town-house. Now, there was no more prolific cause of damp walls than parapets, even with all the precautions that could be taken in the way of good workmanship and materials. Why, then, should they be insisted on, when the spread of fire could be equally well, and perhaps better, prevented by the use of iron gutter eaves, &c.? On the general question of building bye-laws, one great object should be to attain uniformity, and when once a code of rules had been adopted, the rules should be "stuck to." It was, he knew, very difficult to persuade some architects of the importance and value of making themselves acquainted with such rules, and sometimes all sorts of round-about methods were resorted to in order to evade them, in consequence of mistakes made through imperfect knowledge of them at the outset. Some young architects seemed to scoff at the very idea of making themselves acquainted with the Building Act, but, nevertheless, he recommended the younger members of the profession to read it through from time to time, as they would derive much practical information from it. In conclusion, Mr. Blashill expressed the hope that in future the surveyors to towns and local boards under whose direction the new Building Bye-Laws would have to be enforced, would be more generally chosen from the architural profession than was at present the case, for many mistakes and difficulties in working would thereby be avoided. To put the overlooking of building plans into the hands of persons who may have been "nothing at all," and who at the very best were highly-respectable and competent engineers, with no special knowledge of building, was a great mistake.

Mr. E. C. Robins said he proposed to say a few words with regard to the clauses or bye-laws which referred to the drainage of houses and the ventilation of drains. The summary made of those clauses by Mr. Mathews was very concise and clear, but he did not express any opinion,—did not say whether he approved or disapproved of them. He said that "Whatever may be the opinion as to the perfection, or otherwise, of these requirements," he feared "that so long as the system of drain-laying remains in the hands of ordinary labourers," it would "always be unsatisfactory." Mr. Mathews then went on to advise that more efficient men should be employed to lay the drains,—that, in short, the drains should not only be well devised, but well laid. He thought it would be a good plan to adopt a system of granting certificates as to the proper and efficient drainage of buildings, but he did not think it desirable that public bodies should have charge of the private drains of houses. There should, however, he thought, be some competent and thoroughly reliable official to overlook the connexion of all private drains with the public sewers. Clause 60 of the proposed bye-laws stipulated that all drains laid in the basement of a house should be embedded in concrete; but, as Mr. Mathews had very properly pointed out, the extra difficulty which would be entailed in obtaining access to the pipes under such circumstances would not be compensated for by any corresponding advantage. By the 65th clause it was stipulated that there should be provided at least two untrapped openings to every drain passing beneath a dwelling-house, in connexion with a tall and a low shaft under such conditions and in such positions as to form a kind of syphon through which the outer air would flow from end to end. He had practically carried out that plan, and it had been most successful; he was, therefore, glad to see it introduced into the bye-laws. It was too often forgotten that, in ventilating any space, whether a drain, a soil-pipe, or a room, it was necessary to provide an inlet for the fresh air as well as an exit for foul air. He agreed with Mr. Blashill when he said that it was very undesirable to have hollow spaces under basement floors, particularly as it was possible to have solid floors at a very cheap rate. As to the officials whose duty it would be to see that the bye-laws were enforced, he had years ago, as a member of the Metropolitan Sanitary Association, objected strongly to the provisions in the Act of 1855 which gave to medical officers of health discretionary powers, as to materials and construction, which ought only to be entrusted to architects and surveyors. Medical officers of health were very conscientious men, but they could not be expected to supervise technical operations without making great mistakes.

Mr. Rowland Plumbe said that Mr. Mathews had treated the subject so exhaustively that there was little further to be said. It should not be forgotten, however, that the code of bye-laws under discussion purported to be a Model Building Act for all Sanitary Authorities, and as it was likely to be very largely used, it was desirable that it should be made as perfect as possible, and free from all vagueness and ambiguity. Now, the bye-laws constantly referred to the "person who shall erect a new building,"—in fact, everything that was to be done under the new bye-laws was to be done by the "person who shall erect a new building." But it seemed to him that the bye-laws could be evaded with impunity in the case of alterations or additions to old buildings. Another point in which the bye-laws were deficient was that they contained no provisions as to the scantlings of timbers. In many parts of the country it was the custom to allow the joists and the main supports of floors to be carried by wooden partitions, hence the seriousness of the omission to specify the dimensions of timbers. It would be a very simple thing to devise some simple rule as to scantlings. It was also to be desired that such a code of bye-laws should take some notice of the subject of plastering, which was often a source of great danger. In cases where the under surface of the floor was uneven before being plastered, the ceiling was made even by putting the plaster on 3 in. or 4 in. thick in

* See pp. 314-317, *ante*.

places. This plaster was often bad, containing but little hair, and when put on in such masses, was apt to fall down. He knew of one such case in which an occupant of a house nearly lost his life. He thought the bye-laws ought to require that the ceilings should be fairly levelled, the laths put on in a proper manner, and the plaster laid on only in moderately thin layers. Where a house was built on "made" ground, composed of objectionable or decaying materials, it was not sufficient to stipulate that the house should be built on a continuous bed of concrete; there should be, in addition, a dry area all round it. The provision contained in the bye-laws as to "footings" was, he thought, a good one. With regard to thickness of walls, the requirements of the bye-laws were in excess of those of the Metropolitan Building Act. One important omission in the bye-laws was that nothing was said by them as to party-walls, except that in clause 32 it was stipulated that no timbers should be inserted at a distance of less than 4½ in. from any party-wall. The result of that would be that in a building with walls only 9 in. thick no timbers could be inserted in the brickwork at all. He was most strongly of opinion that no party-wall whatever should be less than 14 in. thick. A 9-in. party-wall was not sufficient to save a house if the adjoining house once got thoroughly on fire. Clause 92 ought to be strongly resisted by the architectural profession, inasmuch as it stipulated that complete sets of drawings of every new building erected should be supplied to the local authorities. That was a very serious matter, especially as no possible sanitary advantage could accrue from so needless a requirement. The only drawing which could fairly be demanded was a block-plan showing the arrangement of drainage. In addition, it was stipulated that something very like a complete specification of every new building should be supplied to the local surveyor? Why? He would surely never read it! One important collateral consideration was as to the ability of the builders themselves, for it was not of much use having bye-laws, however stringent and complete, if the builders who had to work under them were incompetent. A common occurrence in London was that when a man could not do anything else, he got some money advanced by a solicitor, and "set up" as a builder. It was notorious that many of the class of "speculative" builders were utterly incompetent to act as builders. Was it anything more than reasonable that the Legislature should, for the sake of the public health and safety, demand some guarantee of competence from those who built our houses? Were such a condition enacted, we should probably get better building. As a corollary to compelling the builders to pass an examination of fitness, the public would naturally expect the architects themselves to pass an examination in order to show their fitness to follow their profession. Such a requirement the Association would, he knew, be glad to see insisted on.

Mr. R. E. Pownall said he agreed with nearly all that Mr. Mathews had said in his paper. He saw one great difficulty in the way of the speedy and general adoption of the model bye-laws, and that was that nearly every district or local board had already its series of bye-laws, sanctioned by the Local Government Board, and without a special Act of Parliament, the local boards, composed, as they often were, to a large extent, of speculating builders and property-owners, were not likely to adopt the model bye-laws voluntarily: compulsion would be needed. To his mind, one serious defect in the proposed bye-laws was that they followed the Building Act and other Acts in exempting from their provisions palaces, gaols, railway stations, &c. On what ground could these exemptions be defended? Surely not because they had no sanitary or structural requirements. Of course, completely-isolated buildings might very well be exempted from the rules which were designed to prevent the spread of fire. Why, in the new bye-laws, should it be stipulated that the minimum width of carriage-roads should be 36 ft., and that the minimum width of a street not a carriage-road should be 24 ft., as compared with the relative minimum widths of 40 ft. and 20 ft. under the Metropolitan Building Act? Mr. Pownall, in the course of some further remarks, showed the contradictory nature of some of the bye-laws, and demonstrated the absurdity of others. He pointed out that they did not define what was "a new street." Was a mews to be considered a street? If so, in building a new mews, was it to be 36 ft. wide? Some might say, "yes," because it was surely a carriage-road. But where were the paths to be, and where the dung-pits? As to party-walls, he held that no party-wall should be anywhere less than 14 in. thick, and that even then no flues should be allowed to be carried up in the thickness of the walls, but in separate "breasts" or projections built against the wall, as was the case, he believed, in Paris. The absurdity of demanding that a party-wall should be of a minimum thickness, and then allowing the minimum to be reduced by one-half or more just at the very point where thickness was necessary, — viz., in the flues,—would be apparent at a glance. It would also be curious to know what, within the meaning of the bye-laws, were "projections intended for architectural ornament." The requirements as to the position of damp-proof courses with reference to the relative positions of the joists and footings would also, in some cases, render it necessary that a tradesman's shop could only be entered by ascending three or four steps! As to parapets, some of the bye-laws would only have the effect of increasing the danger they were intended to guard against, for in the case of a high building in close contiguity to a low one, the burning brands from the high building would inevitably fall on to the roof of the lower building, and set it on fire, being retained by the parapet, which it was, under the bye-laws, imperative to provide to the low building (instead of sliding off, as they would do, from a building with eaves). It was also obvious, he thought, that in buildings of the warehouse class, or in any buildings of large cubical capacity, the parapet walls should be higher than it was usual to make them, for the reason that when a large building was thoroughly on fire, the body of flame had a tendency to curl over a low parapet, and to attack adjoining property.

Mr. E. F. Law, architect (and present mayor of Northampton), said he had been much interested in the discussion, which had very clearly shown the inconsistency of some of the bye-laws. He had been in practice forty-four years [incidentally the speaker referred in feeling terms to the death of Sir Gilbert Scott, whom he used to meet in competition forty years ago], and in that time he had necessarily witnessed a great many evils resulting from imperfect building legislation. One great cause of bad building in the present day was the undue haste with which they were run up. There was no time for the builders to bestow any thought upon them, even were they able to do so, for they were run up, so to speak, in ten minutes or a quarter of an hour. He thought that the proposal to lay a bed of concrete under each dwelling-house was a good one, and if properly done, it would effectually prevent dry-rot. He quite agreed with Mr. Pownall and other gentlemen as to the thickness of party-walls, which ought never to be less than 14 in. thick, and no flues ought to be built in the thickness of party-walls. The non-observance of these conditions nearly resulted in the destruction of some large buildings he had erected at Southport, and from that time he had made up his mind never to erect a party-wall of less dimensions than those he had mentioned. A great deal had been said about supervision, but he advised young architects never to trust to clerks of works alone, but to pop in and out of the buildings frequently and at odd times, and if they discovered anything wrong "to be down upon them [the culprits] strong." Incidentally, he also strongly advised young architects to put all their buildings into perspective, if they wished to see how they would look when erected, and instanced, in illustration, an amusing case where some one who had put up a large iron ogee cupola found that when viewed from the street the lower portion of the "ornament" completely obscured the upper part. He expressed surprise at the smallness of open space which the Metropolitan Building Act allowed behind or at the side of a building, stating that in Northampton the minimum space was 180 ft.

Mr. Todd having made a few remarks,

Mr. Douglass Mathews replied on some points raised in the discussion, and the meeting terminated with the announcement that to-day (Saturday) a visit will be paid to the building now being erected on the site of the London Tavern, Bishopsgate-street, for the Royal Bank of Scotland, from designs by Mr. T. Chatfeild Clarke. The building was illustrated in our volume for last year, p. 884.

A GENERAL VIEW OF THE CABMEN'S SHELTER MOVEMENT.

THE following well-authenticated details have been obtained for the *Builder* under special and exceptional circumstances:—

ENGLAND.

London.—The third annual report of the committee of the Cabmen's Shelter Fund shows that a marked success has attended the movement in London, financially and otherwise, and that eighteen shelters under the control of the committee have now been placed in various parts of the metropolis. One of them is that in Palace-yard, facing Westminster Hall, 22 ft. long by 9 ft. broad. The report states that a large shelter has been placed at Waterloo Railway Station, and that another at Paddington Great Western Railway Station will soon be opened. There have been no complaints by the police as to misconduct at any of the shelters. Applications have been made to the committee for information as to the erection of shelters from Vienna, Lisbon, Berlin, and Montreal. The attendants at the shelters are in most cases old cabmen, who eagerly seek after the appointments. Each shelter becomes self-supporting as soon as erected. Of the eighteen shelters, nine have been erected by individual effort. In consequence of a remark made by Mr. Ellison, magistrate of the Lambeth Police-court, the committee have offered to undertake the erection of shelters in the various localities of the southern district. For this purpose 500*l.* will be requisite. Mr. J. Dennistoun, of the Union Club, S.W., is still the able honorary secretary of the London movement.

Liverpool-street, London.—This is a shelter erected by the Great Eastern Railway Company, and is probably the most complete shelter ever built by a railway company. The following testimony to its usefulness is very encouraging:—It is "a great success," and "the introduction of it is well worth imitation."

Liverpool.—Liverpool may be said to have been the birthplace of the shelter movement, though most shelters are now built on the model of the Birmingham rests. It was in 1869 that Mr. J. J. Stitt, of Belmont-grove, Liverpool, drew the attention of the public to the necessity of providing cabmen with some protection, and the result was the erection of St. George's Pier shelter, the first in this country, it is thought. It cost 150*l.*, and could accommodate twenty drivers. "The experiment" (says a competent authority) "was highly successful, was promptly appreciated by the drivers, and was speedily followed by the erection of two similar shelters on other stands."

There are now four shelters in Liverpool in operation, two being movable. The Corporation, in consequence of requiring the site for public improvements of one of the stationary shelters, has substituted a large movable shelter for it. "The benefits" (says the same authority) "of the shelters to the drivers have been most palpable and gratifying, contributing as they do to their comfort and health. The sobriety of the men has been greatly promoted."

Manchester.—There are nine shelters in this city, seven of which are small. The other two are of much larger dimensions; being, in fact, miniature restaurants. One of these is in Piccadilly, and is a handsome structure; and from the way in which it is conducted it is expected to be a great success. The other one is near All Saints. The following testimony is from a competent observer:—"I believe they will do an immense amount of good by keeping the drivers from public-houses." The honorary secretary is Mr. Walker, of Piccadilly, Manchester.

Birmingham.—This is the head-quarters of the shelter movement, where there are numerous, well-managed, and highly useful rests. They are all under the Local Town Mission, whose chief manager is the Rev. M. Hill. The last report of that mission states that the committee have decided to let the panels of their rests for advertising, and to devote the proceeds to a fund for the benefit of cabmen when sick or disabled by accidents.

Hull.—The movement in Hull has not been without serious difficulties, but the committee, in March, 1877, reported that the shelters in Park-street, Beverley-road, and Anlaby-road, were well kept, and appeared to be valued by the men. The Committee discuss the important question whether the Town Council should not take in hand the movement, but so far as can be

ascertained, no such amalgamation has taken place as yet.

York.—The movement in this city is in its infancy. The city council has sanctioned the placing of the first shelter in Blossom-street. The builder is Mr. Creaser, of the Crescent, who has contracted to deliver it entirely finished for 36*l.* Mr. C. G. Padel, of York, is the honorary secretary. The shelter is almost ready for use.

Huddersfield.—There are two erections for the shelter of the cabmen. One in John William-street is a cabmen's shelter on the pattern of Leeds and Birmingham; the other is a room in the railway station provided by a railway company. The two shelters appear to give great satisfaction to the drivers, and to be very helpful to them. Their children and wives are now able to leave victuals in the rest if they are away on duty.

Sheffield.—There are three shelters in Sheffield, and here also difficulties have arisen; but a highly competent authority assures us that two of the shelters are much appreciated and exceedingly well managed. Each is fitted with gas, stove, &c. Mr. H. J. Wilson, of Pittsmoor, Sheffield, is one of the principal pomoters.

Bath.—There are two shelters in this city, both the generous gifts of ladies. They are stated to be quite a success, the men appreciating them very highly.

Guernsey.—The *café* and cabmen's rest, under the local auxiliary to the Church of England Temperance Society, in its entirety has been a great success, and is quite self-supporting, upwards of 966*l.* having been taken during the first year of its inauguration. The cabmen, by special reasons, are not easily able to frequent their rest, but they are amongst the best customers to the house.

SCOTLAND.

Glasgow.—There are two shelters in Glasgow largely used by the drivers. The *Glasgow Herald* has stated that the temptation to visit the publichouse has been lessened by them, and that "intemperance has greatly diminished in consequence." The shelters are open day and night. The late Mr. George Burns was the founder; and at present Mrs. John Burns, of Castle Wemyss, N.B., directs the movement. At the annual *soirée* and concert of the Glasgow cabmen, held on the 18th of March, it was stated that the Glasgow shelters are self-supporting, and that the cabmen had formed among themselves a Temperance Association.

Dundee.—There is one shelter in this town; the cost was about 120*l.* As regards drunkenness, the shelter has indirectly lessened that vice, and decidedly less drinking goes on, owing to the influence of those cabmen who have become total abstainers. Mr. A. H. Moncur, of Dundee, is one of the promoters.

Aberdeen.—There is no shelter in this town, but the matter has been brought before the Town Council, which has sanctioned sites for two rests. No operations have been as yet commenced. The Aberdeen cab-drivers are described as a very steady class of men. Mrs. Lumsden, of Ferry-hill-house, Aberdeen, is one of the principal promoters.

IRELAND.

Dublin.—We have been unable to obtain any information about cabmen's shelters in Ireland, with the exception of Dublin, and the report from that city is thoroughly encouraging. The Dublin Cab and Car Men's Shelter Association, in its report for 1877, says that the inaugural meeting of the Association was held on March 3rd, 1875, at Mr. S. F. Adair's residence in Fitzwilliam-square; and that the Dublin Total Abstinence Society having since offered the Shelter Association to take over the shelters and manage them upon condition that they would be permitted to sell refreshments to the general public, while the shelters should not be removed from their sites upon cab-stands, the Shelter Association agreed to hand over to the Total Abstinence Society the Great Brunswick-street and Sackville-street shelters, subject to certain conditions, one of which was that the Shelter Association reserved the right of resuming possession upon giving three months' notice. The Shelter Association states that it has learned with satisfaction that the shelters are now largely frequented by cabmen and others and are self-supporting. From the report of the Total Abstinence Society we further learn that there are six shelters and coffee-stands in the city (two of which shelters were handed over by the aforementioned Shelter Committee), and that they are steadily increasing in public favour.

Sir,—*Apropos* of Cabmen's Shelters, may I introduce for discussion in the *Builder*, whether in certain thoroughfares of large towns it would not be feasible to have shelters for the general public, where tea, &c., could be had, something similar to the Dublin coffee-stands?

I have often thought, whilst waiting for 'buses and tramcars, that a waiting-room, as above described would be very convenient. Of course I do not wish to deprive cabmen of their shelters; but merely to suggest the extension of that movement in a more general manner for the benefit of all persons who have to wait in the open air for conveyances. The construction that I plead for would be about the same width as a cabmen's shelter, but longer; and, if desired it could be divided off into two parts,—one for cabmen, and the other for the passengers by 'bus. It would thus combine the Cabmen's Rest and general waiting-room and restaurant.

I have no doubt that the sale of tea and provisions would render the concern self-supporting, and that the best organisation to work the scheme would be a Cocoa-house Company, if the tramcar authorities refused to risk any money on it.

Every little railway station has some kind of waiting-room: I think it is time that the public should demand something similar when exposed to rain, snow, and storm whilst waiting for 'buses and tram cars in the streets.

A Friend of Cabmen.

THE PUBLIC PROPERTY OF DOWGATE WARD.

Sir,—At a meeting of farm labourers, whose cause I have for some time espoused, I was speaking of the way in which local charities were misapplied, when a farmer interrupted me by saying,—"You needn't 'a come away from the City of London to find out that. Look at home." I thought there was a good deal of sense in the remark, and though it did not prevent my continuing to complain of the misappropriations of charity property in the country, it stimulated me to also "look at home." Now, Dowgate happens to be my ward, and I, therefore, think there is nothing like "beginning at Jerusalem": so just as a commencement, I printed and distributed a leaflet containing an account of some of the Dowgate charities, and a few comments thereon. These charities are shrouded in mystery, but not so much so, perhaps, as some of the officials hope,—not so much so, I trust, but that we shall yet penetrate the darkness of past dealings of some of them. From what I have seen, I have no hesitation in saying that if the charities of Dowgate had been properly administered by the right parties there would not have been any poor people in or near Dowgate but had become comfortably circumstanced through the rich charities of the ward. But, sir, it is distressing to see the poor half-starved people hanging about the banqueting-halls of the great companies, waiting for the crumbs that fall from the rich men's tables. There are four or five large halls in and about Dowgate Ward. I have no objection to banquets; but let the rich pay for them, and not use the increment of property left for the encouragement of trade and for the poor, for the encouragement of *delirium tremens* and gout in the stomach. Had the stewards of all the City property been faithful to their charge, there would be sufficient funds to feed, clothe, and educate all the poor of the metropolis, without a farthing rate ever having to be made. But there is a matter referring to the public property of Dowgate Ward, the discussion of which is perhaps more germane to your columns than the charity question. I ask the officers of my ward, through your columns, what has become of the six or seven free landing-places in the ward, which existed a generation since and have now no existence? Who is it that has enclosed them and driven the poor watermen from the riverside? One of the Common Councilmen of Dowgate said in a speech the other day that he had known the ward over fifty years, and never knew a free landing-place. He forgot that within that period those halfpenny steamboats, the *Bee*, the *Ant*, and the *Cricket*, used to land their passengers from the Strand within the precincts of the Ward of Dowgate. Where is that wharf now? Where are the riverside places where the boys used to play twenty-five years ago One of them has been covered in for the business purposes of a grandee of the ward within a few weeks, without consulting me or any other ratepayer. On what grounds has he been allowed to do this, and who has given permission for the closing up of all free access to the river Thames? I should like to ask upon what land the Monument Bonded Tea Warehouses (Limited) stand? Is not a part of the premises of that company built over a roadway, and, having retained a passage in deference to the rights of the watermen, have they not lately erected a barrier in order to gain a future right of closing this passage altogether? I strongly recommend the watermen and others interested to batter down this barrier, and light their fires with it. But certain brick walls have been built in the vicinity which will have to come down also. Sir, if you were to examine an ancient map of Dowgate Ward, and make a new one now, you would find streets built upon, lanes stopped up, and public property quietly turned into private property. If the public property of Dowgate Ward which has lapsed into private property were put up to auction, it would fetch considerably over 100,000*l.*, and might reach seven figures! Now, sir, as a citizen, I ask what our Lord Mayors, Aldermen, and Common Councilmen have been doing all this while? If they are the guardians of the City of London, who is to guard citizens from such guardians? What have all the tribe of highly-paid City officials been doing all this while? It looks to me as though they have been better sheep-shearers than shepherds, and that when they have enough wool they hand over the patient animal to be skinned alive. But, sir, the citizens are to blame for their supineness and their toadyism to the grandees, who mostly study municipal politics for the sake of paunch and pouch. The majority of well-to-do citizens do not trouble themselves about public matters. Business and pleasure take up all their time and thoughts, forgetting how they are deprived of both by these unjust stewards.

Here we are in Thames-street, rented, rated, and taxed to the amount of half our earnings perhaps, and yet we must go a mile to load and unload our goods or submit to all manner of extortion,—and we must bear this for all time, because our free landing-places have been stolen, or sold for turtle soup and champagne!

I have not the slightest objection to improvements being effected in any ward; but when streets and alleys are built over, and the very paving-stones, flags, and gratings, are used up by private individuals, and all this is done in a corner, it is time for citizens to bestir themselves and inquire who are the parties that order these things to be done, and who get the benefit of them? I happen to know that one common councilman, of Dowgate Ward, has proposed, seconded, and carried, important measures alone, he being the only one present. I hope the time is not far distant when there will be much more equitable assessments of property in Dowgate Ward. I am very much afraid that assessments go by favour now, and I see no other plan for equitably assessing property but a Government assessment *ad valorem*.

Depend upon it, sir, the city of London is not going to remain much longer misgoverned. The vote in the House of Commons last week upon the Municipal Government Bill shows that if so small a number of the friends of corruption can be mustered together to batten up civic rottenness now, the days of the corporation of London are numbered: but, anyhow, let us save what public property they have left us.

George Mitchell.

THE TEMPLE CHURCH, 1588.

Among the Burleigh State Papers in the Lansdowne Collection, there is a very interesting agreement between two celebrated individuals of the days of Elizabeth,—an agreement which, in the nature of a "wager," has more than ordinary value, not only on account of the time (the season of the Spanish Armada excitement); but also that it exhibits a custom then prevalent of appointing some well-known public building,—in this case *the font of the Temple Church*,—for the payment of the "bet." It also gives us a very curious picture of pedestrianism 300 years ago.

As you have been good enough to mention my labours in connexion with the "History of the Temple and Temple Bar District" (in the

Builder of March 23), this memorandum may be worthy of printing, as a supplement thereto:—

"Be yt knowne unto all men by theis presents that I, S^r^ Robert Sidney, of Penshurst, in the county of Kent, Knighte, do hereby covenante and graunte for myself, my heires, executors, and administrators, and with Robert Carey, Esquire, sone of the Right Honorable Henrie Carey, Baron of Hunsdon, his executors and administrators, That yf the said Robert Carey at any tyme hereafter shall *in persone* goe and performe a jorney *on foote, from the Citie of London to the towne of Berwicke-upon-Tweede, within the space of twelve daies* entier, and they successivelie followinge one an other next after anie of the said Robert Carey his attempt and settinge forthe of the cittie of London to pforme the said Jorney w^th^out fraude or guyle, and after the said Jorney so gone and performed, shall thereof give publique notice at the usuall place appointed for the payment and receipt of money in *the Royall Exchange in London*, That then he, the said S^r^ Robert Sidney, his heirs, executors, administrators, or assigns, or some one of them, shall and will, within the space of one moneth then next followinge, well and trulye paye or cause to be payd to the said Robert Carey, his executors, administrators, or assigns, or to some one of them, the full sume of *one hundred pounds* of good and lawfull money of England, *at the font-stone in the Temple Church*, neere fleet streete, London, without fraud, covin, or further delay. To which covenant, well and trulie to be performed, I, the said S^r^ Robert Sidney, do by theis presents binde me, my heires, executors, and assignes to the saide Robert Carey, his executors and assigns, in the sume of one hundred and twentie poundes of like currant monie of Englande. In witness whereof I, the sayd S^r^ Robert Sidney, have set my hande and seale the 25 of January, 1588, in the xxxj^st^ year of the reigne of our Sovereigne Ladie Elizabethe, by the grace of God Queene of Englande, ffrance, and Irelande, Defender of the Faith, &c.

R. Sydney.

Signed, sealed, and delivered, in the presence of H. Seymour,
George Carey."

Of the individuals concerned in this curious document little need be added. Their names are already widely known to all readers of history.

Sir Robert Sidney was the second son of Sir Henry Sidney, "the brave soldier, the consummate general, the able counsellor, the wise legislator," the eldest son being the equally-renowned Sir Philip Sidney, who, in writing to Sir Francis Walsingham, in 1581, describes Robert as "a younger brother of so yonglie a fortuned famlie," and adding, "he is more stored with discourses than monie." However, our hero, Robert, was created successively by James I. Baron Sidney of Penshurst, Viscount Lisle, and Earl of Leicester; was grandfather of the ill-fated Algernon Sidney, and ancestor of the present owners of Penshurst.

Robert Carey was the youngest son of Henry, first Lord Hunsdon, and was created by James I. Lord Carey, of Leppington, Yorkshire, and Earl of Monmouth. He died 1639, and was succeeded by his son, Henry, who, dying issueless, in 1661, the title became extinct, but was revived by Charles II. in 1663, in the person of his natural son James, the mother of whom was the historically famous Lucy Walters. The title is now one of those borne by the Duke of Buccleuch.

Of the two witnesses I believe the first to have been the celebrated Admiral Lord Henry Seymour, who had charge of the coaster ships at the time of the Armada; while the second was, without doubt, Robert Carey's brother, George, who, as eldest son and heir of Henry Carey, first Baron Hunsdon (who was created January 13th, 1558-9, and died 1596), succeeded his father as second Lord Hunsdon, became a K.G., and died in 1603.

It is somewhat curious that there was another George Carey living at the same period, who was of more than ordinary importance, viz., Sir George Carey, of Cockington, co. Devon, and of the Inner Temple, who was M.P. for Dartmouth 1586, for the county of Devon 1588, and died 1615.

I may also mention that it was Sir Robert Sidney, who, on the 8th of February, 1600-1, with a strong force under the Lord Admiral, besieged Essex House in the Strand, and called upon the rebel earl to surrender, and that Sir Robert Carey, on the death of Queen Elizabeth, and against the order of the Council, took horse at Charing-cross between nine and ten of the clock in the morning of Thursday, the 24th of March, 1603; rode that night to Doncaster, about 160 miles; the next day to Widdrington, another 135 miles; and did another 50 miles the next day; but a stumble of his horse prevented him reaching Holyrood House (another 50 miles) until the day following, when, wounded and weary, he knocked at the Castle Gate, and informed the Sixth James of Scotland of the death of Elizabeth, and heralded him personally as her successor!

T. C. Noble.

DOING THE LEAST FOR THE MONEY.

I hope the experience gained by the late "masons' strike" will not be lost upon either the masters or the men.

In the matter of interest in the men, the masters have duties to perform which they have neglected,—in the matter of apprenticeships especially. What is the system by which artisans are instructed to become skilled workmen?

In the matter of sympathy with the masters, the men have yet to learn to do as much as they can, and not as little as will pass muster for the wages they receive.

When through their representatives they say that they believe they are only doing as others do, when they give the least they can for the most they can get, they cut at the root of all progress, and effectually extinguish all sympathy for their side of the case.

No one ever succeeded in life who acted on that principle, and no body of men ever will. The truth of this statement as regards the men is often called in question, but it remains the fact. The day before yesterday I received this letter from a well-known firm of builders, who are executing works under me. I inclose their names, since they are prepared to prove the statement by showing their books:—

"Knowing that you are somewhat interested in the cost of masons' work, we venture to hand you a statement of the prime cost of two separate jobs, both executed out of the London district. They were carried out by the same foreman, and in many cases the same men. The one job was finished during the strike in soft freestone, and cost 8s. per foot cube, labour only. The other was finished eighteen months before the strike, in similar stone, but cost little more than half that sum. Yet the latter had quite twice the amount of work on it."

Now, sir, I am earnestly anxious to promote technical education throughout the country, but such facts as these take away the interest which otherwise would be excited in favour of the men.

Edw. C. Robins.

MASTERS AND MEN.

Sir,—Our attention has been drawn to a paragraph in your paper of March 30th, under the heading "Masters and Men," where it states that the plasterers of Bristol are seeking an advance of 1d. per hour, also that we are receiving at the present time 9½d. per hour. This portion is not correct, as you will perceive by the enclosed memorial, which was sent to the employers January last. We should esteem it a favour if you would correct the same. By so doing you would oblige,

The United Committee.

*** According to the memorial we have received, the plasterers are now receiving only 7½d. per hour.

NEW ASSIZE COURTS FOR BEDFORDSHIRE.

The present Assize Courts at Bedford, at which the business for that county is transacted, having for many years past been found to be inconveniently small and in every respect unsuited for the discharge of the Assize business, the Court of Quarter Sessions sitting at Bedford have just decided to purchase land and obtain plans for a new county-hall, to include assize courts amongst other public rooms and offices. The site of the present courts is in St. Paul's-square, almost in the centre of the town, and in close proximity to the well-known Harpur Schools; but the probability is that the site selected for the new courts will be in a more suburban part of the borough.

THE NEW HOSPITAL FOR CONSUMPTION AT BROMPTON.

It will be remembered that, some time ago, a large sum of money was left by a lady for the purpose of extending the Hospital for Consumption in Fulham-road, Brompton. The legality of the bequest was contested, but, after some litigation, was confirmed, and the works in connexion with the new building are about to be commenced, the preliminary step having been taken during the present week in the sale of the first portion of the materials of the buildings standing upon the intended site. The property so to be cleared away for the new hospital is amongst the most valuable of that in Fulham-road. It consisted of fourteen houses and shops, having an aggregate frontage to the road of about 160 ft. in length, and extending a considerable depth backwards; together with a mews having stabling for thirty horses, with coachhouses and dwelling-rooms over them. There were a very large number of lots, the sale occupying two days. Another sale for the further clearance of ground for the new buildings will shortly take place.

ST. MARGARET'S CHURCH, STANFORD-LE-HOPE, ESSEX.

This church has just been restored, from the designs of Mr. M. H. Linklater, architect (now the Rev. M. H. Linklater). Much of the church is of very early date. The building consists, in the main, of nave, and north and south aisles, and chancel. It is entered by a south-west porch and west door, and the structure is built of stone and flint. The chancel walls have been rebuilt, and there are new windows in other parts of the church. The apices are surmounted by worked stone foliated crosses, and the sharp-pitched roofs are covered by tiles, in light and dark bands. The south aisle, however, is covered with lead. The tower buttresses are in, but otherwise the tower is not carried up. The stone used is firestone, from near Reigate, a material much like the clunch found in the Midland Counties. It is intended to introduce large belfry windows into the tower, and carry up a turret at the angle. The ground upon the south side of the building has been lowered to the original level, and hence the true proportions of the old church are brought out. The main part of the building is Decorated work; but the remains of the original Norman church are still quite perfect, and part of its arcade, together with a couple of windows, still remain. The old rood was carried upon two prominent stone corbels, which have been preserved. The nave and chancel roofs, and that of the south chancel aisles, are new, panelled and moulded, and with embattled wall-plates. The floors in the nave and aisles are laid with Mr. W. White's patent herring-bone wood flooring, and will be seated with chairs. The arcades are fine, and there is an interesting piscina in the north-east corner of the aisle. The three-light east window contains painted glass by Messrs. Lavers, Barraud, & Westlake. A brass plate let into the wall on the north-west side of the chancel-arch records the fact that it is inserted "in memory of John, son of Lieut.-Col. Hay, born August 19th, 1837, died June 19th, 1870." The old altar-rails now do duty as a dwarf chancel-screen. The altar is gained by three steps of polished Genoa marble. A parclose screen, of very late workmanship and somewhat peculiar detail, exists, and so do a good Early English sedilia, credence, and piscina. On the north side of the sanctuary is an Easter sepulchre. The Purbeck marble of this is partially new, and has been restored by Mr. Harry Hems, of Exeter, to whose hands the re-fixing and restoration of the Early English font was also entrusted. The reredos is of stamped leather, and has been presented by the Sisters of All Saints, Margaret-street, Cavendish-square. There are four cherubim in panels, and a large cross in the centre, with spear, sponge, and a reed, and five triple nails. The effect of it is not successful. The old chancel-stalls have been utilised. The church contains some fine monuments of the early part of the eighteenth century, and the remains of several old brasses. On the north side of the west end a so-called Leper window has been discovered and opened out. It looks directly up to the altar in the chapel of St. Nicholas, in the north-east end of the north aisle. The builder is Mr. Gregory, of Clapham Junction. His resident foreman is Mr. Newton. Some old tombs exist in the churchyard. One,

a Purbeck slab, is to the memory of a Lord Mayor of London, named Champion, who died about 1600, and was buried there. The addition of tower, pinnacles to west end, &c., will cost about another 2,000*l.*, and it is hoped that Dr. Sedgwick, D.D., the vicar, will soon find these funds forthcoming, and complete worthily the work he has begun.

SIR GILBERT SCOTT AND SIR DIGBY WYATT.

DEAR MR. EDITOR, — Amongst my poor brother's papers I found a letter from the late Sir Gilbert Scott, addressed to him in 1868, on the completion of the India Office, on which they were jointly engaged.

I send you a copy of that letter, for I think it has now assumed such a melancholy interest since the last of these two distinguished men and past friends has passed from amongst us, that I believe its publication will have an interest for architects, and cannot fail to do honour to both. It conveys to all of us a useful lesson as to the charm of faith and honour in all professional engagements. If you agree with me, this letter is much at your service.

T. H. WYATT.

20, Spring-gardens, S.W.,
16th May, 1863.

MY DEAR SIR DIGBY,—Allow me to take the opportunity of the last act of our connected engagement on the "India Office" having been completed, to express to you my thanks for the exceedingly kind and agreeable circumstances which have uniformly attended our connexion on that work.

I entered into the arrangement with you at a time when, as I imagined, my position was strong; and when, shortly afterwards, and during a lengthened period, it unexpectedly became very much the reverse, you adhered with all possible truthfulness to the arrangements made under different conditions; nor have you throughout flinched from them, or evinced any but the most friendly feeling of equal and loyal co-operation.

Allow me to repeat my congratulations on the honour which you have attained, at a moment coincident with the happy termination of this work, on which we have been mutually engaged, and to wish you and Lady Wyatt the long enjoyment of that distinction.—I remain, my dear Sir Digby, ever yours most sincerely,

G. GILBERT SCOTT.

Sir M. Digby Wyatt.

WORKS BY SIR GILBERT SCOTT.

SIR,—On looking through the enumeration, in your last, of works that were executed by the late Sir Gilbert Scott after the year 1847, I find that from memory I can add the following to that already copious list.

J. DRAYTON WYATT.

Churches.—Bibury, Bourton, Bushley, Cadeby, Coventry (Holy Trinity), Doncaster (St. James'), Donnington Wood, Eastnor, Gamston, Great Malvern, Greenstead Green, Halton, Hawkstone, Hillingdon,* Northampton (St. Peter's), Norton (St. Philip's), Okeover, Queenhill, Sprotborough, Tamworth, Turvey, Wood Green, Woolland.

Monuments, &c.—Queen Katherine Parr (in Sudeley Castle Chapel), late Duchess of Gloucester* (Windsor), Earl Powis, Earl of Ripon, Earl Somers, Lord Hotham, Dowager Lady Leigh, Rev. Dr. Mill.

"T. E. W." adds St. Andrew's Church, Ashley-place, Victoria-street, Westminster.

SIR,—During a professional tour which I made in the North of Italy with the late Sir Gilbert Scott, I had good opportunities of knowing the many valuable traits in his character, referred to in your able article of last week.

I fully agree with what you say regarding his connexion with the Foreign Office. You dwell most correctly upon his indomitable perseverance and untiring energy, which I have often witnessed,—working early and late.

I perceive that in the list of his buildings quoted by you, Wells is mentioned. Now, I think it due both to his memory and my own position, to state that the committee for the restoration had full confidence in me; but, as Scott was then engaged on many other cathedrals, they thought it would increase their funds to have his name associated with the work. To this I gladly consented. His reply to the request was most gratifying. He declined, expressing himself in the most eulogistic terms of myself, and stating that the work could not be in better hands than mine. *This* is his connexion with Wells. I mention this as the allusion to his work in your summary might give rise to an erroneous impression.

BENJAMIN FERREY.

* These were included in the list (p. 343) of Sir Gilbert's works illustrated in the *Builder*.

OPENING OF THE LAMBETH NEW INFIRMARY.

THE new infirmary for the parish of Lambeth, which has been erected at a cost of about 75,000*l.*, and which is the largest building of its kind in the metropolis, was formally opened last week. The general external architectural features and dimensions of the building have already been described in the *Builder*. The four blocks, of three lofty stories each, containing the wards for 650 patients, are intended, if necessary, to be still further enlarged, by the erection of an additional story, which would provide accommodation for 217 more patients, bringing the entire number of beds up to 867. The interior arrangements of the several wards vary, a portion of them being what are termed double wards for aged sick patients and chronic cases, whilst the narrower and smaller wards are for acute, ophthalmic, infectious, and surgical cases. The wards throughout are warmed by low-pressure hot-water pipes, in conjunction with Galton's stoves, the pipes being of a medium size, and encased in an ornamental iron covering, having trellis panels on the front and top, with other arrangements for regulating the warmth and admission of fresh air direct from the external atmosphere. The large kitchens and culinary department are at the rear of the administrative block, and are fitted with machinery and appliances for cooking by gas, which is to be the system exclusively adopted throughout the establishment. The separate laundry block, of one story in height, is likewise fitted up with machinery of a varied character, for the purpose of carrying out the work of this department, and consists of two steam boilers and an engine of eight horse-power, the building containing, in addition to the boiler-house and engine-room, a steam wash-house, ironing-room, steam drying-closet, and dirty and clean linen stores. The boiler-setting is faced with white enamelled bricks. The drying-closet is heated to a temperature of 230 degrees Fahr., by steam passing through a coil of piping. The outer walls are all double, to economise the heat, and are provided with inlet and outlet ventilating valves. The whole of the engineering work for the establishment, including the engines, boilers, machinery, and iron-work arrangements, as above described, was carried out by Messrs. A. McLaren & Co., ironfounders, engineers, and contractors, of Upper Thames-street, under the superintendence of Mr. R. A. Quain, consulting engineer to the firm. We reserve any opinion as to the planning and sanitary arrangements of this costly establishment.

THE "CLEOPATRA" SALVAGE SUIT.

JUDGMENT.

IN the Admiralty Division of the High Court of Justice, Sir Robert Phillimore gave judgment on Saturday in the case of Dixon *v.* Burrell, which was an action brought by the contractor for bringing "Cleopatra's Needle" from Egypt to England against the owners and crew of the screw steamer *Fitzmaurice* to ascertain the amount of salvage remuneration which should be paid for the recent services of the defendants in the Bay of Biscay.

Sir Robert Phillimore, in giving judgment, said the ingredients of a salvage service were, firstly, the enterprise of the salvors, to go out during tempests and on other occasions, risking their own lives to save life and property of their fellow-subjects; secondly, the position of the salved property at the time it was found,—that is, whether it was in immediate peril; thirdly, the amount of labour which was expended by the salvors; and, lastly, the value of the property salved. The peculiar character of the property salved in the present case presented some difficulty in the application of the last of these elements. In ordinary cases the marketable value was easily ascertained; it was estimated and appraised by skilful persons. It could not even be said that the property before the Court was not marketable property, inasmuch as it was stated in the affidavit of Mr. Burrell that the city of Glasgow and other cities would be glad to pay large sums for such objects. Then, apart from the consideration of the mere marketable value of the obelisk, it was undoubtedly of great antiquity. It would be an absurd to consider the value of the obelisk only depended upon the value of the piece of granite as such as to estimate the price of a Michelangelo according to the value of the canvas upon which the painting was depicted. So, after taking into consideration all the circumstances connected with the present obelisk, he fixed the price at 25,000*l.* The obelisk had been recovered under circumstance of great peril, and if the *Cleopatra* had been left in her derelict state she would certainly have sunk, which was an element to be considered in addition to the peril caused to other ships if they had come into contact with her. He considered that, under the whole of the circumstances, salvage remuneration of 2,000*l.* should be paid to the defendants.

LIGHT AND AIR CASE.

Barker v. *Lindsay*.—The plaintiffs in the action thus intituled (High Court of Justice, Chancery Division, before Sir R. Malins) were the firm of Savory and Moore, chemists, carrying on business at 143, New Bond-street, and the defendant was Sir Coutts Lindsay, the proprietor of the Grosvenor Gallery.

The plaintiffs, on the 6th of December, 1876, instituted the present action, complaining that certain premises in their occupation in Grosvenor-mews, being premises in the rear of, contiguous to, and in communication with, their shop in New Bond-street, would be deprived of proper access of light and air by reason of a wall the defendant threatened to build on the site of the Grosvenor Gallery: and they claimed an injunction restraining the defendant from erecting such wall of a greater elevation than the elevation of former buildings on the same site; they also claimed damages. Since the institution of the suit the defendant had, by permission of and arrangement with the plaintiffs, erected the wall in question, and the matter now came before the Court on final hearing and with respect to damages. The plaintiffs had been forced to discontinue the occupation of their premises in Grosvenor-mews, and had consequently been put to considerable cost. They also complained that they had been obliged to move at a time when they were unusually busy in carrying out a contract with the Government for the supply of medical stores to the first army corps.

Mr. Bristowe, Q.C., and Mr. T. A. Roberts, were for the plaintiffs; Mr. J. Pearson, Q.C., Mr. Kemp, Q.C., and Mr. Watson were for the defendant.

On the suggestion of the Vice-Chancellor that the matter was a proper subject for mutual arrangement, and that a sum of 500*l.* would meet the damages suffered by the plaintiffs, it was ultimately arranged that the defendant should pay such sum to the plaintiffs in satisfaction for all demands and damages, and should further pay the costs of the action.

BRICKYARD CHIMNEYS.

SIR,—We have at the present time a brickyard chimney to repair, and are at a loss to know what would be the best material to form or finish the top of the chimney with, to be able to resist the acid which accumulates in the chimney, and completely destroys the mortar and cement, and bursts the chimney-cap open. We have tried at different times all kinds of stones, but none of them were of any use; the acid always adhering to and completely destroying them. We shall be exceedingly glad to hear what would be the best thing to top the chimney or finish with in the room of stone.

M. & S.

HALIFAX FLOUR SOCIETY.

SIR,—In answer to "Competitor's" inquiry, I beg to say that with two exceptions the drawings were at their proper destinations six weeks ago; that is, the successful drawings which became the property of the Society are at this office, except those that gained the third premium, the author of which requested his drawings in lieu of 25*l.*, which the directors granted, and his drawings were returned. All the unsuccessful were returned at once, except two, under motto,—"Mantura" and "Je vive en Espoir," having no address; I did not know where to send them, but will do so at once on receipt of address.

Bailey Hall Mill. WM. KERSHAW, Secretary.

CAUTION TO BUILDING ARTISANS.

INFORMATION has reached London of a heartless swindle.

A well-dressed, plausible fellow, giving the name of Webb, has for the last six weeks been visiting several provincial towns representing that he is the head of a large firm at Chicago, United States of America, and that he is in quest of a number of artisans and labourers, and that the wives and girls can also find suitable employment, the men at the rate of $3 a day, and the women $2, on a yearly agreement. A printed form of this bogus agreement being signed, the "firm" agreeing to pay all travelling expenses, a sovereign is drawn from each intending emigrant as a "token of good faith."

At Crewkerne, Somersetshire, forty heads of families were found simple enough to believe the fellow's story, and these poor people broke up their homes, sold their furniture, and everything they could not take with them, and many of these families are now homeless and comparatively destitute. In the meantime this

Chicago rascal "went on business" elsewhere, promising to return and take the emigrants to Liverpool.

The same fraud, we are told, has been practised at Plymouth, Walsall, and other places.

As this notice will meet the eyes of many building artisans at work in country towns, a little inquiry on their part might lead to the apprehension of the rascal.

Books Received.

The Index to our Railway System and our Leading Lines. A Comprehensive Analysis of Railway Property. Second number. A Handbook for Shareholders and Investors, and all who are interested in Railway Administration and Management. By WILLIAM FLEMING. London: McCorquodale & Co. 1878.

IT is not too much to say of Mr. Fleming's laborious and lucid index, that it justifies the claim of its title. Not only will it be found a useful hand-book for shareholders and investors, but it may be called an indispensable aid to all those who, regarding railway property not as mere occasion for gambling speculation, but as serious investment, are anxious to learn for themselves those facts on which the values of each special stock essentially depends. Such value, we need hardly say, is frequently very inadequately represented by the market price, which will rarely be found in accurate accordance with the earning power of the several lines. It is this which it should be the first object of the investor to understand.

The main foundation of this index is the Blue-book of "Railway Returns," annually published by the Board of Trade, which contains the whole of the information that each railway company is bound to furnish to that authority. On this summary statement the annual report to the Board, which for so many years was furnished by Capt. (now Sir Henry) Tyler, and which is still drawn up on the same stereotyped model, is framed. It unfortunately happens, however, that the precise particulars of information which would complete the "Railway Returns," and thus enable the writer of the Board of Trade report to give a summary that would be, not a literary curiosity only, but a document of really instructive value, are carefully eliminated from the returns made by the companies. Mr. Fleming remarks with great justice,—"It is unfortunate that the Board of Trade returns give no details of the capital expenditure whereby an analysis of its application could be made. In this, and in other fundamental respects, the official returns of the Board of Trade are lamentably deficient. The question is one not only affecting shareholders and investors, but is so intimately connected with the social and commercial progress of the country that information commensurate to the interests at stake should be forthcoming. The returns of the railways of India and of some of our colonies far outstrip in useful and essential data those of the home lines."

The same fundamental concealment of the essential elements occurs with reference to the respective net earnings of the different classes of traffic, that is above pointed out with reference to the distribution of capital. As to passenger, goods, and mineral traffic, while gross receipts are given under each head, and total mileage of trains under the two heads of passenger and non-passenger traffic, neither fares, rates of freight, nor average distances for each class of traffic, are given. "There is consequently," remarks Mr. Fleming, "little meaning to be derived from, or value to be attached to, such superficial results as can be arrived at." Year after year will be found, in Captain Tyler's successive reports, a similar complaint. "Whilst the receipts of goods and passenger trains are supposed to be kept separately, no attempt is made to separate the expenses of goods and passenger trains from each other." That sentence is repeated in the Reports of 1873, 1874, and 1875. The Board of Trade admits the ineffective character of the control which the publication of such defective accounts enables either the Government, or public opinion, to exercise over the railway companies.

The only means by which, in the present state of things, it is possible to attain a little daylight on the subject of the respective value of the several branches of traffic, is that afforded by a comparative statement of the earning power of different lines. Of these some carry almost exclusively passengers; one or two are mainly mineral; while the stocks which most attract the attention of purchasers are those of the long trunk lines which carry both passengers and mineral traffic. Mr. Fleming's tables show at a single glance how much superior is the earning power of the former to that of the latter class of railways. With regard to the exceptional cases of such lines as the Taff Vale and the Festiniog, they do not come within the number of the twenty leading lines analysed by Mr. Fleming.

One source of information which has been neglected by the Board of Trade reporters is supplied by Mr. Fleming, with regard to seventeen main lines, from the reports of the companies. This refers to the proportion of capital laid out in plant, and also to the amount annually charged to revenue, and the amount annually debited to new capital for the maintenance and repairs of stock. Here "it will be observed that the proportion of the capital cost of the working stock to the total capital of the passenger lines is very much less than on the goods lines, the extremes being the Metropolitan District, with 2·50 per cent. of its total capital invested in working stock, and 3·20 per cent. on the Metropolitan, as against 16·92 per cent. on the North Eastern, 14·95 per cent. on the Glasgow and South-Western, and 13·39 per cent. on the Caledonian; the first being the extreme of passenger lines, and the others the heaviest mineral carriers." Looked at in another light, we find that while the Metropolitan lines earn nearly double the cost of their plant every year, and while the Brighton and South-Eastern earn 16 and 17 per cent. more than the total cost of their plant each year, the North-Eastern and the Glasgow and South-Western earn 30 per cent. less than such value, and the Caledonian 36 per cent. less. This is an inquiry which it is of extreme importance to pursue. In the case of the Metropolitan lines 92·88 per cent., and in the case of the Brighton and South-Eastern 71·19 per cent., of total gross revenue is derived from passenger traffic. In the other three lines only 32·21 per cent. of gross revenue is thus earned. In the first case 100*l.* spent in stock earns 195*l.* per annum; in the second case, it earns 116·5*l.* per annum; in the third case, it earns only 68*l.* per annum. And it is hard to see in what other way the total capital can be apportioned to the different kinds of traffic. Although it may be remarked that from the greater speed of the passenger trains, the way and works of the three last-mentioned railways will be occupied for considerably more than two-thirds of the twenty-four hours by heavy traffic, against one-third by light.

Mr. Fleming has drawn up and included in his book a draft form of Board of Trade Railway Returns. It is a form which no company ought to find it difficult to fill up. We may go further. No company, unless it be one that has to boast so steady and steadily-augmenting a flow of prosperity, evinced by rising dividends, that it may safely neglect the rules of book-keeping,—if such there be,—can be safe, that is unable to fill them up. On the other hand, they give all that the shareholders, the public, or the Government, have any right to require. The actual solvency of every company, the honesty of its declared dividend, and the wisdom with which its concerns are managed, would emerge so distinctly from an analysis of two or three years of returns such as those of this draft, that no question as to either of these disputed points need ever after arise. Unfortunately there are many companies now existing the managers of which are instinctively aware that the less that is known as to such facts, the better face they can put on them. To such managers, chairmen, and directors,—would that there were fewer of them!—Mr. Fleming must appear in the light of a very formidable antagonist, or, in their own language, a mischievous busybody.

VARIORUM.

MESSRS. W. & G. AUDSLEY, of Liverpool, have commenced the publication in parts of two important works,—"Outlines of Ornament in all Styles," selected from executed ancient and modern works, and intended to be a hand-book for the architect and decorative artist; and a "Popular Dictionary of Architecture and the allied Arts: a Work of Reference for the Architect, Builder, Sculptor, Decorative Artist and General Student; with numerous Illustrations from all Styles of Architecture, from the Egyptian to the Renaissance." One part of each work is published. Each of the books will have our attention when further advanced. In respect of the second work, the commencement of the prospectus will probably be regarded as an impeachment of the Architectural Publication Society's Dictionary:—"There is probably," they say, "no work more required at the present time than a good Dictionary *raisonné* of the numerous terms used in the Fine Arts. Such a work, strange to say, does not exist, notwithstanding the countless demands which have been made for it during late years. Numerous learned treatises have been published on all departments of the fine arts, replete with technical terms and allusions to artistic details which they do not pause to to describe."——We opened the 28th volume of the "Sussex Archæological Collections," recently issued, at a paper "On the Archæology of Sussex Cricket," by the Editor (Mr. C. F. Trower, M.A.), and could not look at any other paper till we had finished it, so full of information and pleasantly written it is. It is Mr. Trower's own fault, therefore, that we have time only to say that the indefatigable Mr. Mackenzie Walcott, Sir George Duckett, Mr. H. Simmons, and others, concur to produce a very useful addition to the long row of volumes issued by the Sussex Archæological Society.——"Boiler and Factory Chimneys: their Draught, Power, and Stability, with a Chapter on Lightning Conductors," by Robert Wilson, A.I.C.E. (Crosby Lockwood & Co.), contains valuable information of the subjects on which it treats. We quote a few practical paragraphs:—

"A chimney-shaft is made up of a series of steps or courses, one above another. Each step is of uniform thickness, but as we ascend, each succeeding step is thinner than that which it rests upon, so that the bed joints between the steps, where the thickness changes, have less stability than the intermediate bed-joints, and it is only these former to which it is necessary to apply the formulæ in determining the strength and stability of the structure. The height of the different steps of uniform thickness varies greatly according to the judgment and practice of the architect or builder, and the custom in different districts. If we take the safe load that can be borne by good brickwork, at 20,000 lb. per square* foot, and the weight of brickwork with little mortar at the joints, at 115 lb. per cubic foot, we have 20,000 ÷ 115 = 170, approximately, as the extreme height in feet, we should make any single division, or length, of uniform thickness. This length is very seldom approached, even in the tallest shafts, as the brickwork has also to bear the weight due to force of wind acting against the opposite side of chimney, in addition to the chimney itself. The steps, or courses, should not exceed 90 ft. in height, except in cases where the chimney-shaft is inside a tower which protects it from the wind. In chimneys from 90 ft. to 120 ft. high, the lengths vary from 17 ft. to 25 ft., the top height being one brick thick; in chimneys from 130 ft. to 150 ft., the lengths are from 25 ft. to 35 ft.; in chimneys from 150 ft. to 200 ft. the lengths are from 35 ft. to 50 ft., the top length being one brick and a half thick, and in very tall chimneys, that is, from 200 ft. to 300 ft., and over, the lengths vary from 50 ft. to 90 ft., the thickness of top length being one brick and a half. The binding of the masonry† is often increased by laying at intervals hoop-irons, tarred and sanded, in the bed-joints, the ends being turned down into the side joints. The length of the hoop-iron in each joint should be twice the circumference of the chimney at that part."

——"Unclaimed Money: Handy Book for Heirs at Law, Next of Kin, and Persons in Search of a Clue," by Edward Preston (1, Great College-street, Westminster), is not unamusing, and may in some cases be useful; but woe to the man or woman who gets set on such a chase as that in question.——General Sir Arthur Cotton, in the *Leisure Hour*, bears out what we have often asserted in respect of *Irrigation in India*.—"What is now wanted to provide against famine is, first, to put the tens of thousands of tanks in complete order, to enlarge them, and, wherever possible, to supply them from the great rivers; secondly, to connect the various patches of navigation already executed in the different works of irrigation, and complete the lines of main canal throughout the country, for this is perfectly practicable throughout India; and thirdly, to extend irrigation to every district according to its capabilities. It is most certain that in this way not only can all India be secured from famine, if it pleases God to continue the seasons as hitherto,—that is, without more severe failures of rain,—but its wealth and prosperity can be increased far beyond the change which has passed over Godavery, for that district is still isolated and cut off from sharing in the coal and other productions of distant districts. It will be seen by what Mr. Leslie says about the canal from Calcutta to the

* As the crushing strength of ordinary brickwork is much less than 90 tons to the square foot, the strength of the bricks used in very high structures should be ascertained by experiment.

† The bond usually adopted is one course of headers to four of stretches. In circular chimneys a uniform bond for the outside course of brickwork is sometimes recklessly adopted.

Ganges, that the grand desideratum is cheap transit; even in a short distance, as of 130 miles, 1¼ millions may be saved per annum. How much more must it be needed in great distances of 1,000 or 2,000 miles? With respect to the general results of the great irrigation works executed by our Government in returns to the Treasury directly from water-rates alone, Mr. Thornton, the head of the Irrigation Department in the India Office, said, at a meeting of the Society of Arts, that the lowest return was four and three-quarters per cent., and the highest forty, for all the works in operation."——The new number of *Night and Morning* (edited by Dr. Barnardo) says:—"Referring to the workhouse infirmary, Mr. Peek quotes from the writings of a lady who has had great experience of workhouse life,—'The assortment of strange bedfellows in a workhouse ward is such as poverty and the Poor-law could alone bring together. Men in convict-looking clothing are sitting on the sides of the beds; faces are amongst them on which one dare not look again. Strong, bad men are dying here, after lives of sin and shame: wild animals tracked to their lair, dying savage to the last. Children are here; the little pale-faced boy of ten years old has been two years in that bed; the dying tramp lies quiet beside him; a burglar is in one bed, in the next a boy of sixteen with an innocent face.' This is no exaggerated picture. Indeed, we can add our personal testimony to that of Mr. Francis Peek, and assert, without fear of contradiction, that the workhouse system, as applied to children of the State, is in itself a most prolific source of that pauperism, wretchedness, and crime, under which our land groans. Were it not for the various Homes, certified and voluntary, which have been established for the rescue and training of destitute children, the condition of these poor creatures, bad as it is now, would be infinitely worse."

CONDITION OF THE SOUTH KENSINGTON SCHOOLS OF ART.

Sir,—I sat down yesterday to pour out to you a string of grievances as to the sanitary shortcomings of the Schools of Art, South Kensington; and I was stopped by the welcome news that workmen had been there during the day to put in new ventilators. So it appears that, things having got "to the worst," are about to fulfil the old proverb, and "mend," and thus one trouble may be over. But I have little faith in the completeness of the remedy, without your help.

Things have, indeed, been pretty bad, and are so still in some respects. There are over 200 young women in the rooms devoted to their use; they are working daily from a quarter past nine, or thereabouts, until four. The windows are closed, and the students are forbidden to interfere with them. [Perhaps wisely, for when, in a suffering moment, one of them ventured to open a window, the whole thing fell in, or out, to the evident risk of those beneath it.] These windows only open by a swing pane at the top, so that even in the hottest summer's day, a very limited portion of fresh air can be obtained from them. During the luncheon half-hour, a man comes round, and tests the heat of the rooms by the thermometer. If it point above 60°, he ventilates the room for a few minutes. But if it be only airless and close, the windows remain sealed. There have always been ventilators, but they have been as often as not covered over.

In the retiring-room there are eight compartments, and only one window to ventilate the whole, and this one often shut,—the fault, partly, of the students themselves; but there should be a superintendent. In the lavatory there are four basins and five towels provided for the daily use of these ladies,—let me remind you, over 200 in number,—forty persons to each towel.

A room beneath the Science School has been set apart for those young women who are studying anatomy. Under this room there runs a pipe, which is so charged with offensive matter of some kind, that the room is untenantable, unless the window be *kept open*.

There are those who argue that there is nothing unwholesome in this pipe; but the fact remains that it is quite insufferable, and that the constant draught is more than delicate people can bear in winter. The result is cold, and worse. There has been a recent case of typhus and death, and without wishing to press the matter too closely, there seems little doubt of the primary cause.

I began by saying that these daily troubles are likely to be in some degree remedied. If you will give your aid and influence, *all* may be set right. Will you give another "Blow for Life"? To many of these young women their study is a matter of vital importance from a monetary point of view. Others only work from love of art and to improve the talent with which they are gifted. But how can *either* hope to excel under such baneful influences? I can testify to headache, nausea, weariness of mind and body, work abandoned in midday from sheer inability to bear the discomfort any longer, discouragement and dissatisfaction, even where there is a strong will and a wish to persevere. What must it be to those who have only just begun, and have the whole struggle before them? It seems to me that the schools were arranged for a certain number, who have been more than doubled without any increase of accommodation.

If you will take the matter in hand, you will win the gratitude of many a weary worker, and add one more to the many heartfelt obligations of yours very faithfully,

A Lover of Fresh Air.

Miscellanea.

London and North-Western Railway Extension. — The new main section of the London and North-Western Railway Company, in course of formation, which will give to Northampton increased advantages with regard to railway accommodation, is (according to the local *Herald*) progressing rapidly, so far as the preliminary earthworks are concerned. Commencing at Roade, where the line will eventually join with the present permanent way, the work of excavating has been exceedingly heavy, owing to the depth of the cuttings necessary in that neighbourhood, and the hard nature of the earth. On leaving Roade, there is a cutting measuring 344,000 cubic yards, while about a quarter of a mile distant is another of almost equal proportions. From this point, however, the work is comparatively light, until the Lady Brook, at Milton, is reached. Here has been constructed a large and substantial bridge, with three arches, the structure itself being completed; and the work of levelling is now proceeding. At Hunsbury-hill there are extensive works for the excavation and formation of the tunnel, which, when completed, will measure 54 chains. At different points shafts have been sunk, and the progress at present is stated to be very satisfactory to the contractors, Messrs. Meakin & Dean. At Northampton, where the main line will cross the Peterborough branch, a large bridge has been built. Immediately adjacent to this the canal will be spanned by a bridge. The loop line, with the Peterborough and Harborough lines joining between Bridge-street Station and the level crossing gate, is nearly completed, as is also the diversion of the canal just below the bridge, already mentioned. The chief engineers are Messrs. Wm. Baker & Stevenson, and the works are being superintended by Mr. Trench, engineer for the London and North-Western Railway Company, and Mr. Strover, contractor's engineer.

Metropolitan Street Improvements — On Wednesday that portion of the new street in course of construction by the Metropolitan Board of Works from Shoreditch to Bloomsbury, which lies between Wilderness-row, Clerkenwell and Farringdon-road, was publicly opened. At half-past two in the afternoon, at Foresters' Hall, a procession was formed, consisting of Sir J. McGarell-Hogg, and other members of the Metropolitan Board of Works, followed by members of the Clerkenwell Vestry, who marched down the new thoroughfare to Farringdon-road, back to St. John's-square, where the opening ceremony took place. The proceedings concluded with a luncheon at the Foresters' Hall. The new street passes within a few yards of St. John's Gate.

Coal Mines in China.—A statement comes from China of a scheme about to be launched for working coal-mines some 120 miles west of Chefoo. A Taoutai, named Chang, has, it is said, got permission to form a merchants' company to commence operations with all the modern scientific appliances. The scheme includes a tramway to the sea, with Chefoo as the principal depôt.

Sheffield Work for the Paris Exhibition.—Messrs. Steel & Garland, of the Wharncliffe Works, in this town, have prepared a selection of goods for the Paris Exhibition which will uphold the reputation which Sheffield now enjoys for the manufacture of grates and fenders. There are in all eight grates, with fenders, ash-pans, tile-hearths, and standards. Conspicuous amongst them is one of the old style of hob-grates, which has been made from a special design for the Exhibition. The grate is square in form, and the outer mouldings are of iron, dead bright. In front of the hobs are let in two embossed and engraved brass panels; and following the line of the moulding is an embossed polished brass concave canopy. The fire-bars fit into a semicircular opening, with brass panels, and the back of the grate is fitted up with encaustic tiles. Then there is a grate of an entirely different character. It is one of the old Stephens pattern, made of burnished steel, for which this firm have been noted. Round the canopy is a very rich ormolu moulding and bead. The canopy is engraved with a florid Italian design, and nickel-plated. Next is a class of grate in the "Queen Anne style." One of these has a series of polished brass-reeded mouldings, with hand-painted art tiles up the sides of the grate and across the top. They form a frieze, and represent Martin's "Œdipus and Narcissus," painted in Indian blue, in panels. Polished brass forms a marked feature in the goods of this exhibit. The firm have recently opened show-rooms on the Holborn Viaduct, London.

London and Middlesex Archæological Society.—This Society was represented at the funeral of Sir Gilbert Scott by Mr. J. Green Waller, vice-president (in the place of the president, Lord Talbot de Malahide, who was unfortunately unable to be present), Mr. Alfred White, F.S.A., Mr. E. W. Braybrook, F.S.A., Mr. J. E. Price, F.S.A., and the hon. sec., Mr. George H. Birch. Sir Gilbert had been associated with the Society from the very commencement, and contributed several papers, which have been published in the Transactions. He held the position of vice-president, and at the time of his lamented decease was making arrangements for reading a paper at one of the evening meetings of the Society.

Plumbers on Strike.—The plumbers of Edinburgh, to the number of 200, went out on strike on Saturday, in consequence of a notice issued by the masters that the men would be required to walk to their jobs, when within city boundaries, in their own time.——Last week the plumbers of Nottingham "turned out," owing to the masters refusing to pay an advance in wages, which, it is alleged, they had promised the men. Last October the men, who were paid at the rate of 9d. an hour, agitated for a rise of 1d. per hour. After a good deal of discussion the masters, it is said, agreed to pay an immediate advance of ½d. per hour, and promised a further similar rise on the 1st of April.

Theatre Burnt.—On Saturday, the 6th inst., the Theatre Royal, Oldham, was burnt to the ground. The building, which would hold between 2,000 and 3,000 people, was the property of a limited company, and was insured. The origin of the fire is not known, but it began near the stage and must have been smouldering all night. The wardrobe and orchestral instruments were consumed. The People's Music-hall was also discovered to be on fire on Saturday, so that the fire is supposed to have been the work of an incendiary.

The late Mr. Rochead, Architect.—We hear with regret that Mr. John T. Rochead died on the 7th inst. in Edinburgh. Mr. Rochead was for many years a leading architect in Glasgow, and designed many important buildings: the Bank of Scotland, Park Church, Knock Castle, and West Shandon and many other large houses. He was also one of the successful competitors in the Foreign Office competition. After a severe illness about ten years ago, he gave up practice and retired to Edinburgh.

Provident Institution of Builders' Foremen and Clerks of Works.—Sir Gilbert Scott was for many years a patron and liberal supporter of this Institution. Too late to be included in our report of Sir Gilbert Scott's funeral, we learn that the Institution was represented thereat by Mr. R. Johnson (president), Mr. J. Hutchings (treasurer), Mr. W. Miller (librarian), and Mr. J. W. H. Bedford (secretary).

The Simon Testimonial. — When Mr. Simon retired from the office of chief medical adviser in her Majesty's Privy Council, a proposal was made to raise a subscription in order to present that gentleman with some testimonial in token of his efforts on behalf of the medical profession, and of sanitary science in particular. On Saturday last, a meeting of the committee of the fund was held at the rooms of the Social Science Association, Adelphi, Sir James Paget in the chair, when a report was presented, stating that the amount of money required had been liberally subscribed. Resolutions were passed adopting the report, and thanking the subscribers, and Mr. Woolner for so successfully carrying out their wishes, in the preparation of a bust. Its ultimate destination is the Royal College of Surgeons.

Concrete Girders.—Mr. Henry P. Holt, C.E., writes,—In reading the *Builder* of March 9th, at page 231, I find a description of some concrete girders combined with wrought iron as a tensional member, and Portland cement concrete forming the upper or compressional member. I can add my testimony as to the economy and efficiency of this method from a four years' experience in its use and construction. I shall be glad to forward you sections and information should you wish it.

A Church on Fire.—During service on the morning of Sunday, the 24th ult., a portion of the roof of St. Anne's Church, Birkenhead, was found to be on fire. Mr. Benson, plumber, who was in the church, got outside upon the roof with a number of men. They found that an iron flue, which proceeds from the heating apparatus, had become red-hot nearly to the top, and had ignited the woodwork. The fire, which was soon extinguished, did damage to the extent of 100*l*.

Gas-lighting by Electricity.—It is announced that the gas-lamps in Pall-mall will be lighted by electricity this Saturday evening between five and seven o'clock.

TENDERS

For four shops in Burdett-road, at the rear of the "Royal," Bow-road, for Mr. Alfred Yates:—

Boyce	£3,274 0 0
Thorpe	3,200 0 0
Steel	3,175 0 0
Marr	3,108 0 0
Blow	3,105 0 0
Atherton & Latta	3,020 0 0
Cooks	2,997 0 0
Peters	2,926 0 0
Pratt & Wiseman	2,900 0 0
Russell	2,673 0 0
Barrow	2,579 0 0

For alterations at the Sol's Arms, corner of Drummond-street, Hampstead-road. Mr. J. R. Furniss, architect:—

Schlater	£707 0 0
Shapley	660 0 0
Evers	650 0 0
Bishop	627 0 0
Gould & Brand	589 0 0
Anley	560 0 0
Benstead & Sons (accepted)	559 0 0

For premises, Nos. 45 and 46, Charlotte-street, Finsbury, for Mr. J. K. Farlow. Mr. R. P. Notley, architect:—

Hart (accepted)	£2,613 0 0

For villa residence, St. James's-road, Tunbridge Wells. Mr. James Blundell, architect:—

Beeching (accepted)	£1,255 0 0

For road-making and sewers for the British Land Company, Limited, on their estates at Wimbledon and Tooting. Mr. H. B. Michell, surveyor:—

Harris	£566 0 0
Jackson	500 0 0
Peill	500 0 0
Ilea	496 10 8
Clarke	485 17 6
Pizzey (accepted)	491 0 0

For alterations at the Imperial Arms, King's-road, Fulham, for Mr. Lunnis. Mr. Lamborn, architect:—

Bridge	£391 0 0
Bigwood	375 0 0
Lamble (accepted)	365 0 0

For alterations at the King's Head, Acton, for Messrs. Fuller, Smith, & Turner. Mr. G. More, architect:—

Lamble	£275 0 0
Chamberlain	272 0 0
Hunt	262 15 0
Nye (accepted)	260 0 0

For building embossing and glass-writing works, for Mr. Wm. Gibbs, at 397, Kingsland-road:—

Anley	£326 0 0
Keen	230 0 0
Harris	227 0 0
Crabb (accepted)	195 0 0

For two houses at Walmer, near Deal, for Mr. R. S. Mason. Mr. W. B. Catherwood, architect:—

Lawrence	£4,843 0 0
W. & T. Denne	4,150 0 0
Trollope	3,991 0 0
Cottew	3,998 0 0
Paramor	3,858 0 0
G. H. Denne	3,719 0 0

For alterations at the White Horse, Brentford. Mr. G. W. More, architect:—

Nutt	£205 0 0
Spicer	190 5 0
Nye	187 0 0

For the erection of gas-works, at Darenth, Kent, for the managers of the Metropolitan Asylum District. Messrs. A. & C. Harston, architects. Mr. R. Jones, consulting engineer:—

Miller & Sons	£8,750 0 0
Wilson & Douglas	8,246 0 0
Porter & Co.	7,845 0 0
Luke Hook Green	7,635 0 0
Strode & Co.	7,600 0 0
Cutler & Son	6,542 0 0
Bower (accepted)	6,287 0 0

For the erection of three cottages in the West End-lane, Kilburn, for Mr. Chester Foulsham. Mr. C. Foulsham, architect:—

		Deduct if owner removes top-soil.
Mark	£1,814 0	£30 0
Yerbury	1,612 10	38 0
Whitelaw	1,426 0	67 7
Cohen	1,350 0	45 0

For brick and pipe sewers for the Lewisham Board of Works:—

Iles	£1,588 0 0
Thompson	1,560 0 0
Hubbard	1,500 0 0
Woodham	1,430 0 0
Pizzey (accepted)	1,400 0 0
Woodham	1,180 0 0

For warehouse and shops in Wilton-road, Pimlico, for Mr. W. Hudson. Mr. H. E. Wallis, architect. Quantities by Messrs. Selby & Rogers:—

Patrick	£18,520 0 0
Lucas Bros.	17,609 0 0
Abrahams	17,497 0 0
Shaw	17,430 0 0
Adamson	17,298 0 0
Walker	17,137 2 5
McLachlan	16,939 0 0
Chappell	16,721 0 0
Nye	16,370 0 0
Macey	16,280 0 0
Perry	15,683 0 0
Peto Bros. (accepted)	15,500 0 0

For the erection of annexe to the Criterion, Piccadilly. Mr. Thos. Verity, architect. Quantities by Mr. W. S. Plimsaul:—

Trollope	£11,134 0 0
Holland & Hannen	11,125 0 0
Lucas Bros.	10,767 0 0
Webster	10,350 0 0
Peto Bros. (accepted)	8,927 0 0

For laundry and kitchen fittings at the School for Imbecile Children, for the Metropolitan Asylum District. Messrs. A. & C. Harston, architects:—

May Bros. (accepted)	£2,239 0 0
Joinery Fittings in Laundry and Kitchen.	
May Bros. (accepted)	£254 0 0

For the enlargement of a manufactory at Milwall, for Mr. J. T. Morton. Mr. Wm. Eve, architect:—

Woodward	£1,122 0 0
Sawyer	1,070 0 0
Heiser	999 0 0
High	930 0 0
Crabb	928 0 0
Salt	895 0 0
Sheffield & Prebble (accepted)	837 0 0

For new schools for the London School Board. Mr. E. R. Robson, architect.

Gillespie-road, Highbury:—

Scrivener	£12,277 0 0
Tongue	12,209 0 0
Perry & Co.	12,147 0 0
Hobson	12,063 0 0
Roberts	12,040 0 0
Williams & Son	12,039 0 0
Thomson	11,998 0 0
Boyce	11,994 0 0
Brass	11,991 0 0
Grover	11,804 0 0
Wall Bros.	11,585 0 0
Jerrard	11,577 0 0
Pritchard	11,565 0 0
Lawrence	11,557 0 0

Berger-road, Hackney:—

Thomson	£13,597 0 0
Hobson	13,534 0 0
Tyerman	13,400 0 0
Brass	13,323 0 0
Hook & Oldrey	13,291 0 0
Williams & Sons	13,230 0 0
Higgs & Hill	13,190 0 0
Perry & Co.	13,178 0 0
Sheffield & Co.	12,973 0 0
Sargeant	12,673 0 0
Boyce	12,583 0 0
Roberts	12,577 0 0
Grover	12,363 0 0

Effra-parade, Brixton:—

Tongue	£7,680 0 0
Jaffrard	7,657 0 0
Brass	7,657 0 0
Tyerman	7,651 0 0
Pritchard	7,643 0 0
Boyce	7,594 0 0
Nightingale	7,583 0 0
Thomson	7,270 0 0
Kirk & Randall	6,993 0 0
Downs	6,973 0 0

For alterations, and fitting-up offices in pitch pine, at 92, High-street, Kensington, for Messrs. Herbert Clarke and Rickett Smith. Mr. John Groom, architect:—

Stimpson	£400 0 0
Sharp & Everett	369 0 0
Frost & Knight	327 17 6
Nicholls	284 6 6
Whitby (accepted)	275 0 0

For building new Primitive Methodist Church and schools, &c., at Cliftonville, Brighton, for the Rev. W. Dinnick. Mr. T. Wonnacott, architect. Quantities supplied by Mr. W. H. Brayshaw:—

Lidbetter (accepted)	£1,395 0 0

For erection of new school buildings and appurtenances, in Clarkson-street, Canning-town, for the West Ham School Board. Mr. J. T. Newman, architect. Quantities supplied by Messrs. R. L. Curtis & Sons:—

Reed	£4,804 0 0
Abrahams	4,643 0 0
Hoskings Bros.	4,357 0 0
Norton & Sons	4,234 0 0
Gregar	4,172 0 0
Knight & Dunston	4,142 0 0
Morter	4,093 0 0
North Bros. (accepted)	3,950 0 0

For residence at Blackwell, Bromsgrove, for Mr. Henry Taylor. Mr. John Cotton, architect. Quantities supplied:—

Smallwood & Co.	£2,477 0 0
Davies Bros.	2,412 0 0
Wood & Sons	2,375 0 0
Mountford	2,333 0 0
Brazier & Weaver (accepted)	2,215 0 0

For new buildings for the London Salvage Corps, Southwark Bridge-road. Mr. Wm. Wimble, architect:—

Hook & Oldrey	£7,244 0 0
Morter	6,943 0 0
Scrivener & White	6,878 0 0
Grover	6,875 0 0
Braid & Co.	6,826 0 0
Abbott	6,820 0 0
Laurence	6,738 0 0

For new stables, &c., at Westow-hill, Upper Norwood, for Mr. J. Selwin Tait. Messrs. Power & Wheeler, architects. Mr. Wm. Barnett, surveyor:—

Tarrant & Sons	£4,100 0 0
Peacock Bros.	3,809 0 0
Lathey Bros.	3,778 0 0
Buckland	3,778 14 0
Bayes Bros. & Allen	3,654 0 0
Boyce	3,575 0 0
Braid & Co. (accepted)	3,574 0 0
Pearson	3,555 0 0

For pulling down part and enlargement of the Parish Church, Radstock. Messrs. Wilson, Willcox, & Wilson, architects. Quantities by Mr. A. Deane:—

Long	£3,137 10 0
Mann	2,933 0 0
Bird	2,932 17 6
Bladwell	2,899 15 0
Hatherly	2,684 0 0
Brown	2,657 4 0
Jones & Co.	2,649 0 0
Davis	2,570 0 0
Wall & Hook (accepted*)	2,518 0 0

* Subject to a few omissions.

For house, stables, &c., for Mr. Beall, Banstead. Mr. F. J. Dibble, architect:—

Hards	£1,780 0 0
Taylor	1,569 0 0
English	1,450 0 0
Heal	1,305 0 0

For school and teachers' house, Raydon, Suffolk. Mr. Frederick Barnes, architect:—

Thwaites	£1,457 0 0
Welham	1,302 10 0
Luff	1,236 0 0

For underdraining Low Hall Farm, Walthamstow, for the Walthamstow Local Board. Mr. John H. Swan, engineer. Quantities by Mr. T. Deacon:—

Pound	£1,850 0 0
Pearson	1,647 0 0
Wilson	1,570 0 0
Horsey	1,383 0 0
Jackson	1,350 0 0
Pizzey	1,310 0 0
Wilson	1,250 0 0
Bloomfield	1,171 0 0
Bugbird	1,165 0 0
Taylor	1,155 0 0

For erecting tanks, outfall works, and main brick and pipe sewers, for the Walthamstow Local Board. Mr. John H. Swan, engineer. Quantities by Messrs. Hovenden, Heath, & Berridge, and Mr. T. Deacon:—

Wilson	£24,873 0 0
Munday	24,706 0 0
Cooke & Son	24,327 0 0
Botterill & Co.	24,146 0 0
Phillips & Co.	23,600 0 0
Winsford & Co.	22,706 0 0
Pearson	22,589 0 0
Bugbird	22,350 0 0
Pizzey	22,305 0 0
Jackson	22,109 0 0
Taylor	21,618 0 0
Bloomfield (accepted)	19,818 0 0

For altering and enlarging the laundry and bakehouse, at the Union Workhouse, Woolwich-road, Greenwich, for the Guardians of the Greenwich Union. Mr. W. Waller, architect:—

Sampson	£2,787 0 0
Downs	2,738 0 0
Johnston	2,697 0 0
Hart	2,685 0 0
Hatfield	2,440 0 0
Tongue	2,428 0 0
Kellaway (accepted)	2,312 0 0

TO CORRESPONDENTS.

G. M.—Dr. B.—R. A. Y.—W. E.—E. M.—T. H. W.—D. A. W.—B. & Co.—R. K.—B. F.—Mr. B.—J. S. G.—T. M.—H. M.—H. & G.—T. D.—Ecclesiologist—J. H.—W. P. G.—J. N.—W. & S.—J. P.—B. A. F.—J. D.—A. A. Danay (shall have attention).—W. F. (Bittal).

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.